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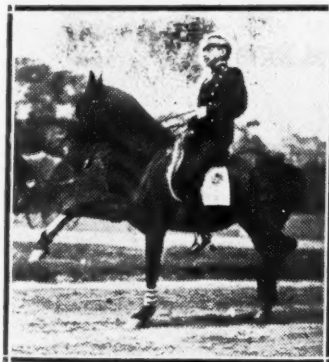
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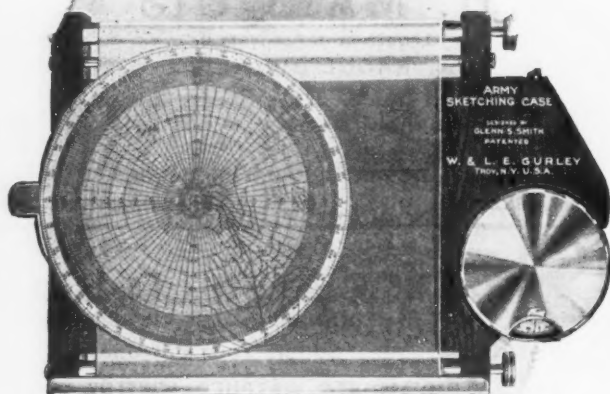
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CAVALRY INSTRUCTION.*

BULLETIN }
No. 18. }

WAR DEPARTMENT,
Washington, October 3, 1912.

With a view to standardizing the instruction imparted at the Military Academy and at the various service schools on the subject of the employment of Cavalry, the following is announced as the policy of the War Department in respect to the use of that arm:

1. Mounted action is the main role of the cavalry arm and its organization, armament, and instruction should be with a view to rendering it effective in such action.

Dismounted action is, however, a very important role of the cavalry, and neither an organization nor the method of instruction which falls to provide for the effective use of cavalry dismounted will enable it to perform fully its functions in war.

2. The organization should be such as to permit of the greatest mobility, which is the essential quality of the cavalry, while providing units of great smashing power in the charge and a sufficient number of rifles to make effective its use when required as a dismounted force.

3. Cavalry must maneuver freely and widely without fearing too much for its rear; and being often at a distance from the main body of an army, its commander must be clothed with authority to conform to actual conditions.

* Reprinted by request of the Chief of Staff of the Army.

4. While the chief task of the cavalry is to assist the other arms in accomplishing the common object, its role is often of primary importance. The action of cavalry must be bold and daring; it must, whenever practicable, assume the initiative, seeking out the enemy and placing him upon the defensive.

5. The principal weapon of cavalry in mounted action is the horse and the force of impact should be utilized to the utmost. The terrain and nature of the operations will determine which of the other weapons must be used.

6. When circumstances permit, cavalry opposed to cavalry should fight mounted, thus retaining the mobility and power of maneuver necessary to its security and success.

7. The historical value of cavalry, including the experience and evolution of our own and that of other countries, must be carefully studied, and due consideration should be given to the greater magnitude of our future cavalry operations as compared with our experiences since the Civil War.

8. The use to which cavalry should be put in campaign is summarized as follows:

- a. To seek and destroy the enemy's cavalry.
- b. Screening, contact and reconnaissance.
- c. Seizing and holding important advanced or isolated positions, thus delaying the advance of the enemy until the arrival of the other arms.
- d. To operate on the flank and in rear of the enemy.
- e. Raids and other enterprises require great mobility.
- f. The mounted charge at the opportune moment against Infantry or Field Artillery.
- g. Energetic pursuit of a retreating enemy or covering retreat of its own forces.
- h. When none of the above roles has been assigned to it, cavalry may go to the assistance (dismounted) of hard pressed infantry to fill gaps in the firing line.

By order of the Secretary of War:

W. W. WOTHERSPOON,

Official:

Major General, Acting Chief of Staff.

GEO. ANDREWS,

The Adjutant General.

THE CAVALRY OPERATIONS IN MIDDLE TENNESSEE IN OCTOBER, 1863.

BY MAJOR GENERAL GEORGE B. DAVIS, U. S. ARMY, RETIRED.

THE operations which are to furnish the subject of this paper were undertaken by General Wheeler with a view to threaten Nashville and Murfreesborough and to interrupt the lines of supply of the Army of the Cumberland to such an extent as to cause it to loose its hold upon the city of Chattanooga whither it had withdrawn after the battle of Chickamauga on September 19 and 20, 1863. The city was closely invested by the Confederate Army of the Tennessee under General Bragg; its principal line of supply by the Tennessee River had already passed into the control of the enemy, and its garrison was forced to rely for its daily supply of food and forage upon a long and difficult line of wagon communication over the Cumberland Plateau, which was so inadequate to its daily needs as to make it necessary to place the troops engaged in its defense upon reduced rations shortly after the siege lines were established in the latter part of September. It is true, as will presently appear, that relief, in the shape of abundant reinforcements, was approaching the city but if, in the meantime, General Wheeler could succeed in cutting off its supplies, there seemed to be no alternative but surrender. The conditions of the investment were such that the besieged place could not relieve itself, but must be relieved by an outside force; and such a force had already been set in motion whith a view to relieve the army from its embarrassing and dangerous situation.

The spring campaigns of the Armies of the Potomac and the Tennessee had culminated in the signal victories of Vicksburg and Gettysburg, from which the Confederacy could hardly expect to recover. But the Army of the Cumberland had achieved no such decisive advantage. After a succession of brilliant strategic maneuvers, in which it had been handled with

the greatest skill, it had succeeded in freeing middle Tennessee from Confederate control; more than this, it had compelled General Bragg to abandon the line of the Tennessee River, including the city and defenses of Chattanooga, and withdraw in the direction of Atlanta. But Bragg had turned at last and had attacked Rosecrans on Chickamauga Creek, where he had so worsted his opponent as to cause his retirement to the defensive lines in front of Chattanooga. So far in its operations, therefore, the Army of the Cumberland had failed to carry to a successful termination the ambitious program which it had set out to accomplish at the opening of the campaign. But it was something to have pushed Bragg back to the south bank of the Tennessee and to have gained permanent possession of the city of Chattanooga, the gateway to Atlanta and the sea. With these it was forced for the time, to be content.

The theater of operations is worthy of careful study. The Tennessee River flows through the region from east to west, at no time very distant from the southern boundary of the State. Across the entire field extends a high table land, known as the Great Plateau of the Cumberland. The plateau itself is generally flat and fairly well adapted to the movement of troops; its ascent, however, is everywhere difficult, due in part to its altitude and in part to its geological structure, in which soft rocks underlie a harder formation at the surface. As the underlying strata disintegrate, due to the effects of wind and weather, a precipitous wall is left which is inaccessible save at places where small streams have worn out slopes reaching to the summit of the plateau. The Sequatchie, a northern affluent of the Tennessee, divides the table land into two parts, Walden's Ridge, which reaches the Tennessee nearly opposite the city of Chattanooga, and the Great Plateau of the Cumberland extending to the northwest in the direction of Nashville.

The Tennessee River is fordable at many places within the theater of operations; below Chattanooga it is navigable at ordinary stages, and formed an essential part of the line of supply for the garrison of the city. As the lower river was in the hands of the Confederates, however, no supplies could pass, and the troops had been placed on short allowance of food so early as the beginning of October; the artillery horses and draft ani-

imals were in still worse case, as grazing had become impossible and short forage had simply ceased to exist.

The mounted forces of both armies had not changed, either in numbers or organization, since the close of the Chickamauga Campaign. The cavalry of the Army of the Cumberland, composed of two divisions, was commanded by General D. S. Stanley and had received the organization of an army corps; attached to the corps, in most of its operations, was Wilder's excellent brigade of mounted infantry, armed with repeating rifles which gave it the fire power of a division. General Stanley had been compelled to leave the field, on account of illness, early in October, and had been succeeded in command by Brigadier General Robert B. Mitchell. In the operations on the north shore of the Tennessee, however, the troops were largely handled by the division commanders, General George Crook and Colonel E. M. McCook. The Confederate cavalry corps remained under the command of General Joseph Wheeler, who had two divisions of cavalry under his immediate control. Forrest's division had taken part in the Chickamauga campaign and a portion of it participated in Wheeler's operations north of the Tennessee. Considerable support was also afforded by the mounted forces in Mississippi under General Stephen D. Lee.

An attempt to determine the absolute strength of the forces engaged in these operations has most of the essential aspects of a Chinese puzzle. The reports and returns of the Union forces are generally full and may be relied upon to give the strength "for duty," as well as the "aggregate, present and absent," which is generally several times in excess of the actual effectives. In the case under examination, however, there are no returns of the Union cavalry of a later date than July 3d—a rather remarkable omission. The returns of the Army of the Cumberland for October 31st, some days after the operations had been completed, show 9,732 officers and men "present for duty." The same return shows 11,651 as the "aggregate present," and 18,353 "present and absent," nearly double the number present for duty. Having regard to the arduous service required of the cavalry since the opening of the Tullahoma campaign in the early summer, and the heavy detach-

ments made for escorts and train guards, it may be doubted whether over 7,500 mounted men took part in the operations north of the river.

On the Confederate side there is the same uncertainty. A correspondent of General Beauregard, who visited the lines of the army early in October, gives Wheeler's strength at 4,500 on October 10th. Three days earlier, on October 7th, General Bragg reported 13,620 cavalry "present for duty," but estimates that sixty per cent. of his mounted force was absent from their commands. This would give a strength, present and absent, of 34,000 men—an absurd figure which could only have existed in the vivid imagination of the staff officer who compiled the return. If we rate the Union cavalry at 7,500, and the Confederate at 6,000, I am sure that it will not be far from the truth, especially when it is remembered that mere numerical strength was not, at any time, a decisive factor in the military operations.

Before passing to the operations of the campaign, it is proper to say a word as to General Wheeler's purpose in engaging in such an undertaking, in face of the obstacles which he was sure to encounter in the character of the country and in the opposition of the enemy. The region which he was about to enter was but sparsely populated, there was no accumulation of food-stuffs calculated to support an invading force and the country through which he was about to pass abounded in obstructions to the movement of troops. To the west of the Sequatchie Valley there was some improvement, and if the Nashville and Chattanooga Railroad could be reached and destroyed, the chief line of supply of the city would be seriously interrupted.

It has been seen that a more promising object of attack, and one more immediately useful to his command was to be found in the heavy supply trains that were known to be on their way from Nashville, over the long and difficult road which crosses the plateau of the Cumberland. The capture of these would put the garrison of Chattanooga on less than half rations, and would enable Wheeler's hungry troopers, for the first time in months, to feed to repletion. It was wisely determined, therefore, to make the moving trains the first object of capture or destruction. If the Confederate commander should be successful in that undertaking, he could push on in the direction of

Murfreesborough for such incidental destruction of the railway and bridges as might be found possible of accomplishment, before the Valley of the Tennessee below the city was fully occupied by the 11th and 12th Army Corps under Hooker, who had reached Nashville from the Army of the Potomac and were pouring into the vicinity of Bridgeport and Stevenson, a position from which relief might be afforded to the starving garrison of Chattanooga and its dependencies.

The Army of the Cumberland had hardly settled itself in its new defensive lines before it became apparent to General Rosecrans that trouble was brewing in the upper valley which since the close of the Chickamauga campaign had been abandoned to the enemy and had become the scene of some of Wheeler's activities. Although it was not known just what form this activity would take, it became clear as the month approached its end that a movement of Confederate cavalry to the north bank of the river was, to say the least, highly probable; that such an incursion was actually impending became so apparent in the last days of the month that special efforts were put forth to guard the upper fords and to resist any effort on Wheeler's part to pass to the north bank of the Tennessee.

To that end the Second cavalry division under General George Crook was established at Washington, a town on the north bank of the river about fifty miles to the northeast of Chattanooga. Crook was charged with the defense of the upper river, and was assisted by Wilder's excellent brigade of mounted infantry. The first division under the command of Colonel Edward McCook, was encamped in the vicinity of Bridgeport with outlying detachments of considerable strength at the crossings between Caperton's and Kelly's ferries.

The initiative was taken by General Wheeler who, with the main portion of his command, left his position on the Confederate right and, on September 29th approached the river at Cotton Port Ferry, not far from Decatur, a practicable crossing but a short distance below General Crook's position at Washington. After a careful examination had been made of the available crossings east of the city of Chattanooga, General Wheeler had found them all so carefully picketed as

to preclude an attack in the nature of a surprise; he therefore determined to force a passage at Cotton Port where the local conditions seemed to favor a crossing in force. This was accomplished on September 30th after some resistance, but without serious loss.

Considering the length and vulnerability of the line to be guarded, it may be conceded, I think, that General Crook had taken reasonable precautions to prevent the enemy from passing to the north bank of the Tennessee. He had distributed his command along the threatened river front in such a way as to give timely warning of the approach of the enemy. But, as is frequently the case, it was found to be impossible to maintain a parity between the services of security and information, and concentrate an adequate force at the ford where a crossing was actually attempted. General Crook was able, however, to mass some troops at Cotton Port, but they were not in sufficient strength to successfully oppose the passage of Wheeler's command. It may not be without interest to know General Wheeler's opinion as to the vigilance shown by General Crook in guarding the river above the city where he was trying to find a place to cross; on this subject that officer says in his report:

"The enemy had occupied the opposite bank and immediately concentrated a force nearly if not quite equal to our own to resist our crossing. This force had followed me up the river, and I found that any point at which I should attempt to cross could be reached as easily by them as by my command. Under these circumstances, I determined to cross at the point I then was."*

As soon as the crossing at Cotton Port had been accomplished and before his line of march had been decided upon, it was important for General Wheeler to learn something of the movements of the enemy's supply trains. He had only been able to learn that the larger train was crossing the great Cumberland Plateau and was about to descend into the Sequatchie Valley; he, therefore, crossed Walden's Ridge and, on October 2d, entered the valley, moving in the direction of Jasper where, on the following morning he captured a train of thirty-two wagons belonging to the Fourteenth Army Corps. He then turned to the northwest intending to ascend the plateau

*Vol. XXX, Official Record of the Rebellion. Part II, p. 723.

and continue his movement in the direction of Murfreesborough. At Anderson's Cross-roads in the upper Sequatchie Valley the great supply train was encountered. It was accompanied by an inadequate escort which was attacked and, after a gallant defense, was overpowered and the train given over to pillage. It is proper to say at this point that, had the train been as heavily escorted as General Wheeler supposed when his report was written, its capture would not have been so easily accomplished by the forces at his disposal. The number of wagons, which he places at 800, regarding that, apparently, as a conservative estimate, turned out to be somewhat less than 300, including the 32 wagons belonging to the Fourteenth Army Corps which had been captured earlier in the day. According to Colonel McCook some 800 mules were recaptured by his command, as were a considerable number of teams which had escaped destruction.

To General Crook the danger of the city of Nashville and the important places in its vicinity seemed a matter of more serious concern than the fate of a single supply train, however important and valuable its contents may have been; he, therefore, pushed forward with all speed to intercept Wheeler before he could reach McMinnville, a town on the western border of the plateau of the Cumberland in the vicinity of which a number of important railway bridges were located. With Minty's and Long's brigades, Wilder's mounted infantry and Stoke's Chicago Board of Trade Battery he crossed Walden's Ridge and entered the Sequatchie Valley at Pitt's Cross-roads, not far from Pikeville.

As we have seen, the First Division under Colonel McCook was encamped in the vicinity of Bridgeport where news of Wheeler's crossing at Cotton Port was received on September 30th. In obedience to instructions from General Rosecrans, which reached him at 11 o'clock A. M., on October 1st, McCook left Bridgeport with three regiments of his division having for his objective Anderson's Cross-roads, forty-five miles distant. It was his purpose to take and maintain such a pace as would bring him to the Cross-roads at daylight on the following day. But this was prevented by a heavy and long continued down pour of rain, so that he was unable to reach the scene of destruc-

tion until noon of October 2d. As he approached the Cross-roads it became apparent that they were still in possession of the enemy. Leaving a portion of his command to observe and prevent the approach of the enemy from the direction in which Wheeler had come, he advanced with two regiments of cavalry and one section of Dunlap's Battery, and found the enemy in force about two miles from the Cross-roads. A mounted attack was made as soon as the command could be properly formed for that purpose. The enemy was pushed back for several miles when night brought the encounter to a close.

The approach of McCook caused Wheeler to expedite the destruction of the captured train and resume his march toward McMinnville, which he assumed to be occupied by a Union garrison. Such indeed was the case. Hodge's Confederate brigade, which had not taken part in the attack on the train, marched in the direction of McMinnville in advance of Davidson's division; in the afternoon of October 3d, he approached the town and found that Clay's battalion had driven in the Union outposts. The surrender of the place was demanded and acceded to, without resistance by its commander; as the place seems to have been regarded as untenable, General Granger had ordered its evacuation and it would thus appear that, in failing to withdraw his command, the senior officer present had been guilty of disobedience of an order which, had it been carried into effect, might have saved the disgrace of surrender. The garrison at the instant of surrender consisted of about 600 men; a large quantity of valuable stores also fell into the hands of the enemy. The march upon Murfreesborough was then resumed and the place was reached on the morning of October 5th. The stockade at the railroad bridge at the crossing of Stone's River was captured with its garrison and the bridge completely destroyed; a train and a considerable quantity of stores at Christiana and Posterville, together with all the bridges and trestles between Murfreesborough and Wartrace were also destroyed. Shelbyville was occupied without resistance on October 6th, and the command halted at Duck River for a short rest before resuming the march.

As Wheeler had gained a start of some fourteen hours, a vigorous and strongly sustained pursuit was necessary and this General Crook attempted to give. Between Anderson's Crossroads and Murfreesborough he was able to get into contact with the enemy on at least four occasions. These contacts were alike in all their essential incidents. As Wheeler's rear guard was approached by its pursuers, it was halted and, if necessary was reinforced from the main column by a contingent of dismounted skirmishers. These were attacked by a similar, but generally preponderating force and, when some advantage had been gained by the pursuers, the enemy was assailed by a cloud of mounted men charging as foragers. These rear guard contacts were generally successful, and the pursuit was continued until the enemy's main body was encountered, or his rear guard had reached a place which was susceptible of defense against cavalry. It is well to remember that most cavalry charges at this period of the war were made in the formation as foragers. Infantry in close order was rarely attacked by a mounted force, and it was only when it was found in open order that such an attack was attempted. If the open order formation was due to the fact that the infantry was to some extent shaken, or was advancing in loose order to deliver an attack, the charge was usually successful—that is a number of the enemy were killed and wounded and a considerably larger number were made prisoners.

Neither reports nor correspondence indicate that cavalry charges with the saber were made at any time during the operation. This was largely, if not entirely due to the fact that few of General Wheeler's command were armed with sabers, or had any experience in its use. It was frequently observed that, when one mounted command attacked another, the one which had the more sabers easily rode down the other. The Union cavalry was, as a rule, mounted on better and heavier horses than was that of the Confederate Army. This, added to the majority of sabers was generally sufficient to turn the scale. The Confederate cavalryman, weighing never more, and often less than one hundred and fifty pounds, mounted on a correspondingly light horse, was the finest agency in the service of security and information that the world has ever seen; it is earnestly to be

hoped that the breed, both of men and horses may never become extinct in the United States.

It had been General Wheeler's purpose, not only to reach and occupy Murfreesborough, but if conditions were favorable to threaten Nashville. As he approached the former place it became apparent that the pursuit by Crook and McCook had been so vigorously maintained that he would be unable to carry out that part of his program. So at Murfreesborough, he turned his columns down the Duck River in the direction of Shelbyville. The divisions of Crook and McCook were now joined, under the orders of General Mitchell the corps commander. On October 7th the entire command turned to the west in the direction taken by General Wheeler who aimed to reach one of the lower fords of the Tennessee River.

After turning to the south General Wheeler halted at Crowell's Mill with a view to concentrate his command, which had been marching on separate roads and so had gotten to some extent out of hand; here he learned that the enemy was approaching Farmington, a place at some distance from Duck River and nearly due west of Shelbyville. Crook began the attack with Wilder's brigade, followed by a mounted charge which was well delivered by Long. Both seemed to be successful until the enemy reached a position of advantage in a cedar thicket from which it was believed to be impossible to dislodge him by a mounted attack. The enemy was unable to withstand the sustained and well directed fire of Wilder's repeating rifles, however, and reluctantly continued his retreat in the direction of Farmington where Wheeler made a bold and determined stand with a view to check his pursuers long enough to enable him to make a final push toward the Tennessee River.

On the morning of October 7th, General Mitchell learned that Wheeler's command had divided, one column marching in the direction of Shelbyville, a second moved in the direction of Wartrace but, early in the day, desisted from its purpose and joined the main column; a third detachment had turned to the right and was approaching Unionville. McCook's division was ordered direct to Unionville while Crook pushed forward on the Farmington Road, where Davidson's confederate division was encountered on the Duck River about two miles north of the

road. Wilder's mounted infantry, having the advance, and the enemy appearing to be in some confusion, was ordered to make a mounted assault and succeeded in driving the enemy into a dense cedar thicket, which abound in this portion of Tennessee; here Wilder dismounted his men and continued the attack. The assault on foot having shaken the enemy, a saber charge of Long's Cavalry brigade was ordered and delivered with such success as to force the enemy back a distance of about three miles. About three quarters of a mile from Farmington, Wheeler was again encountered, this time too, in a close cedar thicket, then and since the chief sources of most of the material used in the manufacture of lead pencils in the United States and elsewhere. Here they were attacked by dismounted men but, as Colonel Minty's brigade, which formed a part of the attacking force, failed to get into position, or even to appear on the field of battle, the attack not only failed of success but the entire command of General Crook was seriously compromised, as the enemy's line extended considerably beyond his own. Stokes' battery was posted so as to assist in repulsing the enemy and its fire, added to that of Wilder's repeating rifles, threw the enemy into some confusion. The conditions again appearing favorable for a mounted attack, Long's cavalry brigade again charged the enemy with sabers which was gallantly pursued and only failed of success when the roads leading to Wheeler's rear were found to be blockaded. No further stand was attempted by General Wheeler, who crossed the Tennessee River at Muscle Shoals, carrying with him a considerable quantity of captured property and teams; his principle capture of wagon transportation at Anderson's Cross-roads had to be abandoned, most of it at the place where it was captured.

While General Wheeler was engaged with the enemy at Farmington, General Roddey, who seems to have exercised some sort of local command in Mississippi and Alabama, approached the Tennessee River at Hess Ford, some distance below Chattanooga, where he was prevented from crossing, partly by the strength of the enemy and partly because of the swollen condition of the river. Failing at Hess's Ford he moved to Bellfonte, but only to find the river impassible in that vicinity; he finally succeeded in passing to the north bank at Larkins'

Ferry and Guntersville. Moved by the feeling of destruction which seems to have been in the air, he did some damage to one of the tunnels on the Nashville and Chattanooga Railway. At Salem he received information as to Wheeler's condition and prospects, which made him pause and led him to conceive the idea of joining Wheeler in the neighborhood of Decatur. In the afternoon of October 12th, he came into contact with the Union cavalry near Huntsville in an indecisive engagement which was terminated by darkness and a heavy downpour of rain. Learning that General Wheeler had recrossed to the south bank of the Tennessee, Roddey shortly followed; subsequently he offered to destroy the Union communications if a regiment of Kentucky cavalry could be given him. Why such a discrimination should be shown between Kentucky cavalry and that from Illinois or Tennessee, I have been unable to find from the reports or correspondence of the period; the reports are also silent as to whether the Kentucky cavalry was to be in addition to, or in place of his own command; at any rate his offer was rejected. In his report a similar suggestion was made to General Bragg who does not seem to have regarded it as sufficiently alluring to warrant the further employment of military force in its attainment. With this flourish of wind instruments, General Roddey seems to have been permanently eliminated from the military situation in middle Tennessee.

With General Wheeler's retirement to the south bank of the Tennessee followed, a few days later by that of Roddey, the Wheeler Raid came to an end. The results must have been, on the whole, disappointing to General Wheeler himself, not less than to his immediate superior, General Bragg, and to the authorities in Richmond. He had captured and partly destroyed a large train load of supplies which the enemy could easily afford to lose, as his normal line of supply, by the Tennessee River was opened by the aid of reinforcements from the east a few days after his command had crossed to the south bank of the river. He had carried no consternation into middle Tennessee because he had not been unable to enter, or even to seriously threaten that section. The cavalry of the Army of the Cumberland caught his trail as soon as the place of his crossing had been reported and followed close upon his heels until he

recrossed to the south bank of the river. His losses in men and horses were considerable, and were difficult to replace; he had gained nothing—not even the reputation of being a better and more resourceful soldier than any of his opponents. Although the skill and resolution which he had displayed throughout the undertaking were of a high order, they had availed nothing, save to ensure his return to the Confederate lines after the expedition was over.

The situation of the Army of the Cumberland, closely besieged in Chattanooga, on short and daily dwindling rations and the apparently defenseless condition of the region to the north of the Tennessee had seemed to offer a tempting prize, which slipped out of his hand when he attempted to gather it in. The opportunity to destroy railroads and bridges had been fully availed of, but had only operated to embarrass the enemy without causing serious delay to his operations; nor did the expedition assist materially in the reduction of the Federal defenses about the city of Chattanooga. In spite of his strenuous and well directed endeavors the Army of the Cumberland was relieved, the siege operations came to naught and the possession of a strong base on the south bank of the Tennessee River passed into the hands of the Union commander, never again to fall under Confederate domination, save, perhaps, for the brief period of Hood's invasion in the winter of the following year which was brought to a close by his decisive defeat by General Thomas before the city of Nashville.

THE BATTLE OF NUEVO LAREDO—MEXICO.

(January 1-2, 1914.)

BY FIRST LIEUTENANT BRICE P. DISQUE, THIRD U. S. CAVALRY.

AN attack on Nuevo Laredo had been promised for weeks and as the Christmas holidays approached, those familiar with the fondness of the Latin race for fiestas had selected Christmas as the day.

It seems that Pablo Gonzales, the Carranzista commander, was unable to celebrate "La Natividad" in this way much to the disappointment of the eagerly expectant tourists, who had come to Laredo, Texas, to see a battle.

Rumors of the attack continued however, and on December 31st, it became known that Gonzales had concentrated his forces within ten miles of Nuevo Laredo. That same afternoon Colonel Gustavo Guardiola, commanding the Federal garrison in Nuevo Laredo, received a message from Gonzales to the effect that if the Federals did not surrender or come out of the town and fight within twelve hours that he would take the town by assault. Guardiola destroyed the message without reading it.

The afternoon and evening of this last day of 1913 thus became one of the many interesting and pathetic incidents. A steady stream of women and children, rich and poor, crossed the International Bridge into Laredo, Texas, bringing with them such of their household effects as they could carry under their arms. Mothers with little babies in their arms, children with their pet cats and dogs, came to take refuge on American soil, leaving behind them the male members of their families to defend their homes against the promised attack of the morrow.

As night came on the Mexican population of Laredo, many of whom are Carranzista sympathizers, gathered in small groups on the street corners and confidently and exultingly discussed

what they believed would be the Huertista rout. Mexicans in automobiles dashed around the streets and cries of "Viva Carranza" were heard.

The civil authorities of Laredo called upon the commanding officer of Fort McIntosh for a special guard to assist the police in patrolling the river front and keeping order among the excited Mexicans. The local militia company was called out for duty at the American side of the International Bridge to assist in handling the refugees as they arrived.

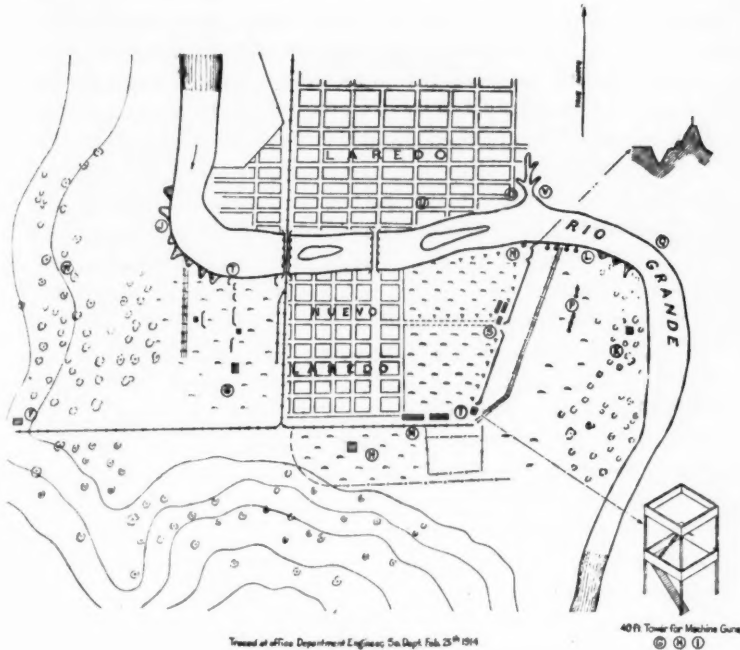
At Fort McIntosh the officers attended the customary New Year's Eve hop, but in service uniform. In Nuevo Laredo, the Mexican garrison also celebrated; their very excellent band was heard playing long after midnight. The American garrison was aroused at 5:45 A. M., January 1st, by the first shots of Gonzales' attack. Thirty minutes later the troops of the Third and Fourteenth cavalry were at the stations previously assigned them for the purpose of keeping the curious crowds from exposing themselves along the river banks, and for other emergencies that might arise.

Although the battle of Nuevo Laredo probably is insignificant as a military event, it must stand unique as furnishing an opportunity for observing at close range the thrilling and spectacular incidents of modern combat. From commanding and commodious, though somewhat perilous, points of observation on the American side of the Rio Grande, and within ranges of from 200 to 800 yards, every detail of the engagement, even to actions of individual men on both sides could be followed. Observers were further favored on both days by ideal weather and a clear atmosphere.

The relative location of the two Laredos and the terrain in the vicinity of Nuevo Laredo is shown on Sketch No. 1.

The I. & G. N. R. R. from San Antonio has its terminal in Laredo, Texas, and here begins the Norte de Mexico R. R. which is one of the main routes to the City of Mexico, passing through Monterey as the first Mexican city of importance. Nuevo Laredo is surrounded by a range of hills rising by gradual slopes from the town to the tops of the hills at an average distance of five miles from the town. The terrain in all directions from the outskirts of Nuevo Laredo had been cleared of all brush, etc.,

a point about 100 yards from the river at (N) the works were changed into two lunettes made necessary by the high banks of the river. This eastern line of works was covered by a double



SKETCH No. 2.

barbed wire fence about 300 yards to the front. It was said that these wire fences were all charged with electricity but I saw several men handle the wires without evil results. In addition to the wire fences the Federals had approximately forty fuses planted at an average distance of 300 yards from their works; these were connected by electric wiring. The western side of the town was covered by a broken line of lunettes extending from (G) to (T) at the river, these were covered in front by wire fences as on the east. The bridge, where it reaches Mexican side, was prepared with sand bags and occupied by a

detachment which was able to enfilade most of the arroyas in the high, steep banks of the river at the bend from (T) to (J). At (G), (H), and (I) were located machine gun towers. These were of open construction, two stories high and protected by walls of wood filled with earth, each about three feet high on each story. The towers stood about forty feet high and afforded excellent points for observation as well as fire. The south side of the town was protected by armored railroad cars which were shunted about by armored engines. These also worked on the west side of town. The two long buildings west of (I) had been prepared for defense. Covering the south side of town was one or more barbed wire fences. The banks of the river throughout course shown are high and steep, broken all long by great arroyas, which however, did not prevent men in single file moving along the water's edge.

Colonel Guardiola, commanding the Federals at Nuevo Laredo, had approximately 1,000 regular troops in the town on December 31st. This force was made up as follows: One battalion of infantry, one squadron of cavalry and a battery of four guns of three inch artillery. To this force must be added about four machine guns and 500 impressed volunteers. His supply of ammunition was not great.

Gonzales, the Carranzista commander, advanced against the town with approximately 3,000 men, disposed as follows: (See sketch No. 1). There was a force of 1,000 under command of Colonel Salcedo in the vicinity of (B) and 2,000 divided into two columns under General Sesario Castro at (A) and (C). He had no artillery and but one machine gun. All of the Carranzista troops were mounted. Their mounts had been almost starved and continuously on the go for several weeks. The men had had nothing to eat, except meat, for fifteen days. They were from all parts of Mexico, as shown by a roster of the wounded, now prisoners in the hands of the United States troops at Fort McIntosh.

Other Federal troops in the vicinity of Neuvo Laredo were: About 700 were at Piedras Negras, about 140 miles up the Rio Grande, and General Quintana was at Lampazos, about 60 miles southwest on the N. de M. R. R., with about 1,400 Federal cavalry and two machine guns. This latter force was known

to be available as reinforcements for Nuevo Laredo and the railroad was open from the latter place to Lampazos on December 31st.

The apparent plan of the Carranzista leader, was to surround the town of Nuevo Laredo and make a simultaneous attack upon it from all sides about daybreak on the morning of January 1st. Preliminary to this Colonel Salcedo with his 1,000 cavalry, at (B) had orders to interrupt the railroad near Sanchez before Quintana could arrive and to stop any reinforcements which might arrive from the west or southwest. All horses were to be left under cover of the hills surrounding the town.

EVENTS OF DECEMBER 31ST.

Knowing that his enemy was in fact surrounding him, Guardiola called upon General Quintana to come to his assistance. The writer while inspecting the guard on the American side of the railroad bridge at 5 P. M., learned from a railroad man that Quintana was coming from Lampazos by rail with 1,400 troops. This was not taken seriously as it was believed impossible that Gonzales, with his troops occupying the country for a distance of twenty to thirty miles from Nuevo Laredo, would permit such a movement while it was so simple a matter for him to interrupt the railroad. However, this very movement did take place at 11:00 P. M. Quintana was received in Nuevo Laredo by the Federal Band and the assembled citizens and soldiery who were not in the trenches.

Salcedo utterly failed in his mission. On the morning of the 31st he sent 200 cavalrymen to attack Jarita, (Sketch No. 1). This attack took place and the little garrison of thirty Federals held the attackers off for three hours when they withdrew to return again about 5:30 P. M., just as Quintana's trains were passing. Quintana stopped and deploying a few companies drove off the Carranzistas and proceeded on his way to assist Guardiola. All the time of the morning attack on Jarita, which is little more than a railroad station, the telegraph operator was sitting on the floor sending messages to Lampazos giving the details of the fight to Quintana's staff officer. It seems incredible that neither the track nor the telegraph wires were

interfered with at any time during this affair at Jarita, but such was the case. Quintana passed Sanchez before Salcedo reached that point.

EVENTS OF THE FIRST OF JANUARY.

Daylight came slowly and as it did the American troops stationed along the river from (U) to (Q), (Sketch No. 2) were able to make out a small force of Carranzistas advancing along the river bank near (L). The river front in Laredo was covered by Troops "M" Third Cavalry, Captain Johnson at the Wagon Bridge and to (U); Troop "L" Third Cavalry, Lieutenant Disque, from (U) to (O); Troop "K" Third Cavalry, Lieutenant Jones from (V) to the bend in the river beyond (Q). The Fourteenth Cavalry troops, "I," "K," and "L," covered from the Wagon Bridge to and including Fort McIntosh.

The attacking force at (L) began to retire as daylight came on and by 7:00 A. M., had fallen back to the vicinity of "K" leaving three dead and five wounded on the field between (L) and (K).

About this time a Federal soldier was seen to make his way towards the river and it was clear that he intended to desert and make for the American bank. Some of his own troop caught sight of him and in a few minutes he was riddled with bullets and hung to a telegraph pole at (N). This is believed to be the only case of attempted desertion on the part of the Federals and we, who had been led to expect wholesale desertions from Guardiola's forces, were agreeably disappointed.

As soon as the Carranzistas had retired to (K) the Federals sent out a toop of mounted foragers to reconnoiter the front. This troop moved out of the works at (S) in column of fours and immediately formed a line of foragers at intervals of about four yards and moved forward, officers in front, at a trot. They were fired on from the line of mesquite as they approached it and retired to the works without casualty.

At about 8:00 A. M. a heavy fire, artillery, machine gun, and rifle, opened to the south of town. The action here could not be observed and what is known of it was obtained from Carranzista's wounded who advanced against the south side. One force of 34 men, apparently without definite orders, reached an open

ditch 400 yards south of (I), another force of about 100 advanced against the railroad at (H). The remainder of Castro's 2,000 remained in the mesquite back on the hill at a range of about 1,500 yards.

The expenditure of ammunition along this southern line was most extravagant during the forenoon and somewhat desultory during the afternoon until 4:00 P. M., when it again assumed wonderful proportions and would have been a credit to a Gettysburg. Not less than seventy-five shrapnel were fired, about two-thirds exploding from 200 to 1,000 feet in the air.

The Carranzista loss from all this was not more than ten dead and twenty wounded.

Salcedo's force was seen at 9:30 A. M. moving north from (F). All were mounted and marching along the crest of the hill. Many of his men wore very light colored clothing and several rode white horses. The movement was easily seen by the writer from his position at (O) with glasses and he was able to form a fair estimate of their strength.

As the head of this column reached (W) the Federal artillery opened upon it. Here some excellent artillery results were observed. The third shrapnel exploded in the column and scattered the leading unit. A few moments later, another shrapnel scattered a part of the column and it then withdrew to the west, dismounted and advanced directly against the west side of the town, many of them utilizing the river bank for protection. In all about 500 men in the thin skirmish line advanced this line fired rapidly and continuously, it was noted that the men seldom knelt or laid down, but fired from the standing position. There was a continuous heavy rifle and machine gun fire from the Federal position, particularly the fortified house and parapet about 400 yards in front of the main line. The artillery of the Federals fired a great deal but did very little execution.

A force of about twenty Federals occupied the small lunette nearest the river at (T). Ten of this number had advanced to a protected point about 500 yards to the front and suddenly finding themselves surrounded by Carranzistas began to retreat. They were seen by an equal number of their enemy

who immediately opened fire upon them at a distance of less than 100 yards. There then ensued a most interesting duel between these two small detachments, each calling to the other to show their bravery, each shooting as fast as he could from standing positions. The result was three killed, two Federal and one Carranzista. The Federals fell back to their lunette and then this garrison of the lunette were seen to suddenly leave their position and rush to the rear. For a moment it was thought that the Federals were retreating and the movement was accompanied by a shout of exultation from the Carranzista sympathizers on the American bank. The Federals however, stopped at the bridge and opened fire which stopped the enemy advancing along the river.

At about eleven o'clock a Federal officer, mounted, rode out from near the center of their line with a small detachment to reconnoiter. It wasn't long before his horse was shot. The horse seemed to be shot in the loins and sank to the ground. At the time other bullets were tearing up the earth about the officer. He slowly stepped off his animal and calmly walked back to the works, smoking his cigarette seemingly unperturbed.

Another interesting case which showed the Mexican's contempt for death was that of a Carranzista machine gun crew. One man was operating a gun, in the open, about 300 yards to the west of the center of the wire fence on the west side of town. He would fire a few rounds and then stand up and walk about for a few moments and then return and fire a few more. Federal bullets were making things warm about his gun but he never seemed to notice them. Finally he was hit and apparently killed. Another man immediately came out of shelter and started to work the gun, he lasted about five minutes when he fell mortally wounded, and was immediately replaced by a third man who picked up the gun, moved it about fifty yards to the right and opened fire. Not one of these men made a hurried motion, all were deliberate and apparently unconcerned and absolutely indifferent to the danger of the Federal bullets which were aimed at them. This is typical of the conduct of all Mexicans under our observation during the two days fighting.

The fire on the west side of the town continued with more or less intensity until dark when neither force seemed to have gained any advantage.

At about 4:30 P. M., there was a reconnaissance from the eastern works toward (K) by about 150 cavalry. They were met by fire from the mesquite and returned to the works. This cavalry was followed in by a small detachment of Carranzistas who advanced to within about 400 yards of the Federal works under heavy rifle and machine gun fire. About dark the Carranzistas again retired towards (K) with loss of one man killed. Two Federals were seen killed behind the parapet, both seemed to be shot in the head.

The firing all around the town ceased at dark and the night was without event except for periodical rifle and machine gun fire of small volume.

EVENTS OF JANUARY SECOND.

The general and heavy fire from all sides of the town at daybreak on the 2d of January convinced us that the Carranzistas had held their positions of the night before. Neither side seemed to have any regard for their supply of ammunition and, as on the first day, there was considerable noise.

On the west and south sides of the town the Carranzistas were satisfied to remain at long range and the fight was little more than a fire-fight at quite safe distances.

The Carranzistas on the eastern side of the town, however, were more ambitious, and, by their daring attempt to effect a lodgement in the works near (N), afforded the observers at (O) and (V) a most remarkable opportunity to watch, at a range of 200 yards, the conduct of two contending hostile forces, engaged in a deadly and stubborn fire-fight for nine hours, at distances from each other ranging from 500 to 100 yards. No man who saw this affair will ever believe that the Mexican is lacking in bravery, courage or initiative.

Taking advantage of the darkness of the early morning, the Carranzistas worked sixty men up along the river bank and as daylight came on the writer was able to count forty-nine men advancing and firing. They were then about 500 yards from the Federal position at (N). There seemed to be no officer in

charge although natural leaders were noted from time to time. The advance was made by groups of five or six men moving forward about fifteen yards and then firing over the top of the river bank, rapidly. After firing a few rounds, several of their comrades would advance beyond them. At about 6:30 A. M., this force was supported by a spirited advance of about forty men from the vicinity of (K), moving in an extended skirmish line and firing from the shoulder and hip while standing. There was cover and plenty of it for single men, but these valient sons of the Aztecs spurned it and elected to expose themselves in order that they might show their enemy their contempt for his rifle and machine gun fire.

The Federals at this time had not more than 100 dismounted cavalymen in the works from (I) to (N). The led horses were kept in the trench at (S) well protected by the high command of the works. It was during this early morning fighting that the Carranzista bullets, which grazed the top of the Federal parapets, fell in considerable numbers in the town of Laredo, Texas. Several hit the office of the Customs Collector at the northern end of the Wagon Bridge. Many of course fell in the meadow between the town of Nuevo Laredo and the line (I)—(N), over which were seen numbers of Mexican women and children carrying breakfast to their soldiers.

When it became evident that the Carranzistas were making a serious effort to gain a lodgement, Guardiola dispatched a squadron of cavalry from the reserve in the center of town to the works along the east front. This squadron dismounted after galloping into the trench and was disposed along the parapet. On this day the fire of the Federals at this point was controlled with great nicety. Never did they have more than enough men standing at the parapet firing. Those men not required were to be seen sitting on the berm with their backs to the parapet and apparently asleep.

As the Carranzistas advanced several fugases were expolded among them. But one man was seen to be injured by these little mines and he was thrown into the air and killed.

The shouts from both sides were plainly heard by the writer and added greatly to the excitement of the affair. Mexican exclamation were freely used and such cries as: "Raise

your head and show us how brave you are," and "Is that the way you fight for Huerta?" etc., passed back and forth all day.

By nine-thirty the Carranzistas had advanced so that their leading men were within 100 yards of the Federal parapet. The fire became intense and the machine gun at (I) got into the action, shortly followed by a 3-inch field piece located near (M). The latter fired shrapnel, several of which grazed the river bank and exploded in the river and a few of which hit in the American bank near (Q). One shell fell within a few feet of a patrol from Troop "K" Third Cavalry and was brought in by them.

At this time the loss in the Federal trenches was three men, all killed; that of the Carranzistas was eight men, all of whom were lying in the midst of their comrades. The sketch herewith prepared by Lieutenant Kirby, Third Cavalry,* is a true and excellent illustration of the position occupied by the two contending forces at about 10:00 A. M. One particularly daring Carranzista can be seen along the bank, about thirty feet in front of a dead man, firing from a kneeling position. This man after firing three shots was wounded in the arm and then made his way to the rear.

One of the attackers being supplied with some hand grenades made his way up to within seventy-five feet of the Federal parapet which begins at the river, deliberately lighted it and threw it into the Federal trench. The Federals behind this trench at this time seemed to be asleep, at any rate they were lying in the trench, otherwise it would have been impossible to approach so close. The grenade killed one man and aroused the others, but the bomb thrower lighted a second grenade and hurled it towards the trench before retiring, which he was able to do without mishap.

Back in the mesquite near (K) were stationed about 200 mounted Carranzistas, supposed to be a support for those shown in Lieutenant Kirby's sketch. This support never showed themselves. The force along the river bank was left to take care of itself and by three o'clock after having been hotly engaged for over nine hours without food or drink, they began to show signs of fatigue. Their fire slackened and it was apparent that they

*Unfortunately this sketch was so rubbed and dim that it could not be reproduced.—*Editor*.

were about out of ammunition. It was possible for them to withdraw gradually but they elected to remain, probably in the vain hope that reinforcements would soon come up. Several of the wounded remained and were seen trying to fire over the bank with one serviceable arm; one was wounded in the hip and after retiring a few yards found a niche in the bank where he seated himself and renewed his fire.

A goat took it into his head to leave the Federal works near (N) at about 2.00 P. M., and walked slowly towards the position of the Carranzistas, along the crest of the river bank right in line of the grazing fire from both forces. He wandered back and forth for twenty minutes, apparently undecided as to what to do, before a bullet brought him down. Several cows also moved out of the Federal position at (S) and after wandering about for a time met the same fate as the goat.

It was about 3.00 P. M., when the Federals assembled a force of about sixty men near the old tower in Lieutenant Kirby's sketch. An officer was seen talking to them for a few minutes and then with him in the lead they rushed out of the position and along the top of the bank towards the Carranzistas. This counter-attack was of course prepared by a considerable fire from the riflemen behind the parapet and the machine gun at (I).

From this moment on the Carranzistas did not fire. They seemed to become panic stricken and each man made for the rear. Many of them dropped their rifles. The Federals swarmed along the top of the bank and the writer saw the last of this Carranzista force of forty-nine men, shot before he had gone 100 yards beyond the large tree shown in Lieutenant Kirby's sketch at the water's edge near the left of the picture. The victorious Federals then directed their attention to the enemy in the vicinity of (P) and some continued along the river bank. Two Carranzistas were found along the bank about 100 yards east of (L). They plunged into the river and made for the American side. Each was a target of about a dozen Federal rifles. They swam under water until forced to come up for air and each time their heads appeared, the water about them boiled with bullets. One of the two was killed before he had

gone twenty yards, but the other was within ten yards of the American shore when he sank for the last time.

The Federals continued their advance into the Mesquite at the bend in the river. Here considerable firing was heard. About this time a squadron of cavalry mounted and rode out of the trenches at (S) and started a pursuit of the support which had been at (K). The force which made the counter-attack returned at about 5:00 P. M., carrying the rifles of their vanquished foe.

The coming of night was delayed by the usual illumination caused by the burning of a number of buildings on the outskirts of the town. The Federals were responsible for some and the Carranzistas for others.

By seven o'clock all firing had ceased and the attacking force had withdrawn far beyond range of the Federal rifles and guns. It is a fact that Gonzales started his retreat on the morning of the second and that some of his troops had reached San Ygnacio, forty miles away, before he permitted the annihilation of the brave detachment which had been sent, or permitted to, advance along the river to (L).

Starting at about 2:00 P. M. on the second, automobiles, American owned, began to arrive in Laredo, Texas, filled with Carranzista wounded. They were transferred to our side below the bend in the river where friends took them in charge with a view to caring for them in the improvised hospitals on the American side. The impudence and self-assurance, with which the Carranzistas planned for, and brought their routed and wounded to the northern bank of the Rio Grande, excited much comment and just criticism from the Federal refugees and better class of Americans living in Laredo; and, was only possible through the sympathy and assistance of the local civil government. Some of the more ardent of the American Carranzista sympathizers were considerably disgruntled and disappointed because the Post Hospital at Fort McIntosh was not placed at their disposal. Several of the wounded died and on January 15th there were but thirty-seven of them held as prisoners of war in camp at Fort McIntosh.

The Carranzista loss, during the two day's fighting, according to the best information available, was 190 killed and 340 wounded. That of the Federals was 79 killed and 69 wounded.

Guardiola was happy to see eighteen loaded wagons with ammunition come into his town from Piedras Negras on the night of the second. His supply had been almost exhausted and another days' fighting would have been disastrous for him.

COMMENTS.

Under this heading one could write a volume. On the part of the Carranzistas there were many blunders. They showed great bravery and indifference to death. Their entire action indicated lack of organization, cohesion and mutual confidence, and seemed to be entirely animated by individual desire to capture a town for the promised loot.

Certainly Gonzales, if he had any control over his men, should have made sure that the railroad, leading from Nuevo Laredo to General Quintana's force, was effectually interrupted before attempting to invest the Federal town. Good judgment would have led him to place the bulk of his force on that side of town knowing that Quintana was to be expected. He should never have permitted the daring attack along the river against the eastern side of Nuevo Laredo on the second, unless he intended it as a secondary attack in connection with something more important, or, he should have reënforced the attack locally. If it was merely an action to cover his withdrawal, it should never have gone as far as it did. Finally, there is every reason to believe that he knew definitely the strength of the Federal garrison, knowing this, he should not have attempted to take it without the determination to push his attack home, and he should have seen to it that his force was sufficient and properly provided with machine guns and artillery. As it was, he evidently placed all his hope in the much talked of panic and desertion of the entire Federal garrison.

The Federals showed many of the characteristics of good troops, they might have easily been cut off entirely from all support. As it was they were 300 miles from their nearest base, Monterey. With them it was a fight to the death. Early in the action it was apparent that "*No quarter*" would be

shown and no prisoners taken. This was apparent after a small detachment of Federals, about fifty in number was surrounded early on the morning of the first and massacred to the man. Despite all this their entire conduct was characterized by a high degree of discipline, coolness under fire, and entire lack of nervousness, showing that they were officered by men of superior ability and character. They had nothing to gain and everything to lose, and stood their ground loyally in the belief that they were serving a government, to whom their allegiance was due.

BULLETIN NO. 18.

BY CAPTAIN G. W. MOSES, FIFTEENTH CAVALRY.

BULLETIN No. 18, War Department, October 3, 1912, has been brought to my attention by being again printed in the U. S. CAVALRY JOURNAL. (Page 531, January, 1914.)

That Bulletin is a highly creditable little document, but its reappearance caused me to wonder what conditions in our service could have induced our Chief of Staff to request its republication. This "wonder" set me to thinking and this paper is the result. I asked myself what changes have been made in modern war conditions which will have a bearing on the methods of securing the results which are asked for in Bulletin 18?

At the beginning of the Civil War, our cavalry was undeveloped, our officers without that kind of training and experience which was needed in a great conflict, but they were also free from traditions which filled them with false ideas, and the result was that some of the best cavalry leaders of modern times were developed and a cavalry officer today, whether he be American or European, must include a careful study of the methods of cavalry leading during our Civil War, before he can lay claim to having a proper professional education. He must not, however, *confine* his study to that one conflict, for some of the most valuable lessons come from a comparative study with other wars, or else he will find himself suffering from traditions almost or quite as mischievous as those which affect some of our European friends who have failed to include that war in their lists of subjects.

In paragraph 1 we read: "Mounted action is the main rôle of the cavalry arm and its organization, armament, and instruction should be with a view to rendering it effective in such action. Dismounted action is, however, a very important rôle of cavalry and neither an organization nor the method of instruction

which fails to provide for the effective use of cavalry dismounted will enable it to perform fully its functions in war."

As a preliminary, I wish to say that I am not dwelling upon the subject of equitation because it is generally admitted to be a necessary preliminary to all cavalry training that the horses shall have reached a high degree of obedience and docility and shall be so physically trained as to enable them to carry their riders over all sorts of country with a minimum expenditure of energy, and that the riders must be able to sit their horses lightly and with good balance. For the cavalry officer however, to forget that these things are but a means to an end is to make the same mistake as for the infantry officer to think that his education is complete so soon as he has learned his drill and has become a fairly competent instructor on the target range.

Surely every one is willing to admit that the duties of cavalry are properly summarized in paragraph 8. Differences of opinion will begin to appear, however, just as soon as we begin to discuss the means by which these results may be obtained, but the object of this article will have been accomplished if I succeed in presenting any new ideas which will in the end lead to beneficial thought and discussion.

Paragraph 1, quoted above, correctly states that we should give shock action a foremost place in our minds when forming a decision as to what to do in a given case. This fact can not be too strongly impressed upon the minds of the American officers because dismounted action has been so perfected in our cavalry that we are apt to exaggerate its importance just as our European friends are prone to underestimate it.

I am firmly convinced that cavalry should be trained with a fixed purpose to meet the enemy mounted whenever and wherever tactical conditions permit. In the earlier stages of the war, especially, we should strive to meet the enemy's cavalry and to overwhelm it in a charge, because the charge is quicker and its results more decisive. When our army is waiting for information, time is valuable and little or no useful reconnaissance work can be done until the enemy's cavalry is overwhelmed, and to get the morale of the enemy absolutely we must show him that we are not trying to avoid shock action. Another advantage of mounted action is that we are more than likely to

drive the enemy in the very direction which it is well for us to take in order to do effective reconnaissance, while the delay which follows dismounted action will allow him to recover his morale to such an extent as to lead us away from the point most dangerous to him or else to organize protecting parties which will effectively delay our advance. Again, cavalry without the offensive spirit is not cavalry, and the offensive, dashing spirit implies at least a *desire* to close with the enemy mounted.

The close of a charge finds practically every man in contact with the enemy who is not actually disabled, or whose horse has not been killed. Every student of military history knows that this is far from true of dismounted troops; the proportion of stragglers among untrained or under-officered troops sometimes becomes very great. Many horses which have been mortally wounded carry their riders through the charge and help to deliver the blow against the enemy's line, so that the percentage of effectives which can be brought against the hostile line, even in the face of a galling fire, is greater than can be hoped for from a dismounted line under similar conditions.

To say, however, that we can always compel the enemy to meet us mounted or else refuse to meet him at all is foolishness. It is not so easy to evade a mobile force of the enemy armed with machine guns and long range rifles and, if he is equipped with artillery, the problem becomes much more difficult. The result will be that, even on favorable terrain, we shall be frequently compelled to attack dismounted with either all or a part of our force. This will occur more frequently than we would like; and, for that reason, every cavalry column should be equipped with some cyclists who will be capable of acting as supports for fire action without interfering with the mobility of the column. Of course light, or horse artillery and machine guns are always necessary.

Where the enemy takes the initiative and indicates that he is preparing to meet us dismounted, or where the ground makes it uncertain whether or not he has dismounted supports, it will be foolish to form immediately for the charge. Time must be taken to reconnoiter the position and to prepare for the attack. This seems almost like a platitude but I have known of so many charges won on maneuver grounds, through the

kindness of the umpires, under conditions which would have led to the annihilation of the charging cavalry, that I am convinced that the remark is not, necessarily, superfluous. In our desire to instruct our cavalry to fight mounted we must not be so enthusiastic on the maneuver ground, in the war game, or in the map problems, as to make ourselves ridiculous or we destroy, rather than strengthen, confidence in our arguments.

"When circumstances permit, cavalry opposed to cavalry should fight mounted, thus retaining the mobility and power of maneuver necessary to its security and success."

I have often had it preached to me that, at the beginning of a campaign strategic patrols and contact squadrons should be sent out well in advance of the army cavalry for the purpose of locating the enemy and sending back word to the main body as to his where-about, strength, dispositions, etc. This implies long marches well to the front, among most perilous surroundings and, in the face of active cavalry, entails a superhuman job upon the advance troops and all for the purpose of getting information, which either never returns at all or is so old when received as to be of very little value to the cavalry commander. The contact troops move out by forced marches for sixty or seventy miles to the front and after these extraordinary exertions either have to go into hiding or else they are captured or destroyed by the fresh troops *near* the enemy's main body after their mobility has been seriously impaired by long marches and lack of provisions. The cavalry accomplishes little or nothing and the army commander either obtains his required information from elsewhere or fails to get any, and every one asks "what has become of the cavalry?"

Whatever may be the object of the reconnaissance, I am of the opinion that the best way to obtain results is for the whole body of the cavalry to advance along parallel roads, making a step by step advance (moving from one good strategic position to the next), carefully reconnoitering between positions by means of patrols and aeroplanes, until the enemy is located and then, taking advantage of night or weather, unsuitable for the enemy's aeroplane reconnaissance, to concentrate everything and break the enemy's screen. This being done we shall be free to obtain information of value and by

means of wireless telegraphy or telephone, we should be able to transmit what is received while it is still new enough to be of value.

Right here I wish to say something about aeroplanes in connection with this early reconnaissance. Aeroplane reconnaissance is a factor upon which we must reckon, for cavalry in the future will not be able to fulfill its mission except in combination with it. As indicated above, aeroplanes can and should be used boldly while seeking the enemy's cavalry. By this means the horses will be saved for the fight and our cavalry's concentration be conserved by the lack of necessity for shoving out reconnaissance parties one or more days' ride to the front. As soon as the enemy's cavalry is defeated and we have reached the position from which we desire to prosecute our vigorous reconnaissance, the air scouts will be sent out and not only furnish valuable information of the enemy, but also advise our cavalry commander as to where cavalry reconnoitering bodies should be sent, so as to get a maximum of information with a minimum effort.

Incidentally prior to efficient work with the aeroplanes, there will probably be a fight between the air fleets and there we should be able to support our own air ships and aeroplanes by fire from balloon cannons. For that reason balloon cannons has become a necessary part of the equipment of a cavalry division.

On account of the great extent of the front of modern armies, together with the impenetrability of that front due the long range of modern fire arms, it will be impossible for even victorious cavalry to obtain much information of the enemy's dispositions, therefore the cavalry must be accompanied by aeroplanes and it must be equipped with a view to supporting and protecting the air fleet. Aeroplanes on the other hand, must be accompanied by cavalry, because its work must be supplemented by a mobile force which is also capable of moving quickly across country to new bases of support and reconnaissance. There never has been a finer opportunity for team work than that which will present itself in the next great war.

Very frequently the aeroplanes will be able to advise the cavalry commander of important positions which are in im-

mediate danger of being seized by the enemy, and so allow our cavalry to increase its value to the army Commander by beating the enemy to that position and holding it until the arrival of other troops. This has always been an important duty of mobile troops but their value along this line should be many times greater than heretofore.

After the battle opens, the cavalry certainly should not waste its time by laying around in ambush, awaiting a favorable opportunity to charge, nor should it be held in rear of the line as a part of the general reserve. If a part of a defensive line, it should be echeloned to the front for the purpose of observing the enemy's dispositions in time to allow the supreme commander to make proper dispositions to meet them and enable him to deliver the counter charge at the best time. On the offensive it should also press to the front for the purpose of screening the movements of the advance and reconnoitering the enemy's line. In either case it will be in the best position to take up the pursuit or to cover the retreat. It will also be ready to assist in the fight directly by striking the enemy in flank or rear, either spreading panic and disorder by means of fire or, should the opportunity offer, by delivering a telling charge.

If, due to the terrain or other causes, this employment of the cavalry is impossible it should be held back and its strength conserved for future usefulness unless it is necessary to "go to the assistance of hard pressed infantry or to fill gaps in the firing line."

The pursuit is, I believe, one of the few places where cavalry should be cautious. It will not be advisable to allow the enemy even a local success for everything must be done to lower his morale. The parallel pursuit is the only one which will, in general, succeed, for a direct pursuit will soon be stopped by the enemy's rear guard. In the parallel pursuit fire action should be resorted to as the principle means of harassing the enemy and the mounted charge should be resorted to only when the tactical and psychological conditions insure a successful result. In general, the front of the enemy's retreat will be so great that cavalry can only hope to keep it moving by threatening its rear and by annoying it with fire; to charge would deflect

it from its proper mission and, at best, only secure a local success.

When the enemy's front is extended over fifty or sixty miles, operations against his rear will be practically out of the question but we can and should operate against his flanks. By that means we shall be in position to strike him a telling blow on the flank and to keep him worried about his line of communications. At the same time we shall keep him from successfully conducting an enveloping or turning movement against our own army.

Later on in the war, after both armies have been broken up into smaller detachments, we shall have opportunities for raids against the line of communications or other important points. In movements like raids in which great mobility is required, the horses should be quitted and dismounted action restored to with great reluctance, especially by smaller bodies. And here, again, do aeroplanes become of transcendent importance because they will be able by well timed scouting to prevent the cavalry from becoming involved in an inopportune fire fight, and to prevent unnecessary patrolling by advising the cavalry leader of threatened danger.

In conclusion: I have avoided the subject of organization and only touched on armament so far as would be suggested by the modern factor of the aeroplane. To my mind the great essentials for every cavalry officer to bear in mind are: (a) The step by step advance; (b) The resort under all practicable conditions to the "offensive hook;" (c) the attempt to carry out the parallel pursuit when victorious and to prevent it when protecting a retreating army; and, (d) The cultivation of mental attitude favorable to the employment of cavalry mounted, so that the psychological effect will be to cause him to resort to dismounted action only after having rejected mounted action as impracticable.

FORAGING AND CONDITIONING OF CAVALRY HORSES.*

BY CAPTAIN ARCHIE MILLER, (CAVALRY), Q. M. CORPS.

I HAVE been directed by the Chief of the Cavalry Board to submit my views on the proper foraging and conditioning of cavalry horses.

1. I believe that troop commanders have in the past displayed less interest in this matter than any other duty connected with their command. The result has been that we have fat, ill-conditioned, short-winded animals that quickly run down and become unserviceable when put to any severe tests. We do too much stable duty and grooming "by the numbers" as recruits do the manual of arms. Just why no one should be permitted to talk while grooming is beyond my comprehension, for any man who handles a horse intelligently should talk while doing so.

Too much care is exercised to see that men fall in promptly at assembly for stables. Many of these men would be at the stable earlier and getting their mounts conditioned if permitted to do so.

Stable duty could easily be made a pleasure instead of an irksome bore.

I am glad that the old custom of grooming cold horses before daylight is rapidly falling into disuse. No good trainer would waste time then on grooming. Brush the animal off, of course, but do the grooming after the horse has been exercised and turn out the entire command at this time so that every special duty man can get acquainted with his mount.

I have seen one grooming a day when it was a great improvement over the present custom. Everybody was present for grooming at 10:45 A. M., and only those horses that were exercised in the afternoon were groomed again that day. All horses were invariably brushed off before being saddled.

*Report made to the Adjutant General of the Army, through Chief of the Quartermaster's Corps, and published at the suggestion of the Chief of Staff.

Stop the taking away of a trooper's horse by officers and non-commissioned officers just when that animal has become well conditioned by a man who loves and cares for his mount. It takes the heart out of the trooper and should be permitted only in an emergency.

Our horses are on the picket line or running in a dirty corral much of the time when they should be in the stable. Stable sergeants like to have their horses out as much as possible so the stable will look clean when officers inspect. We should have a stable police on duty all the day to collect the manure as it is dropped and this should be deposited in fly proof manure pits at once, from where it can be hauled out daily. In many garrisons, one manure spreader to each two troops would be a time and money saver.

All troops should have "swipe sticks" and use them when the horses come in hot.

2. About exercising:

Too many troops start out at a "Trot," the rear of the column at a "Gallop" to catch up. The first and last of all exercises should be at the "Walk." The horses feet should be permitted to expand before being put to the more rapid gaits.

Fresh air and exercise is the life of the horse, so give them the exercise regularly even though the weather may be inclement. Too many horses stand in the stable for several days on account of weather conditions and then get a double dose of exercise the first day out, the very time when they should be exercised less strenuously.

3. In considering the subject of proper foraging, I wish to state that so far as I have observed in the service we have almost wholly disregarded the best authorities in this very important matter and have permitted our animals to be foraged by the stable hands with little or no attention from the troop officers except perhaps to see that the quality of forage is satisfactory. The officers who neglected to properly supervise their mess would soon hear from that omission of duty, but the horse must take what he gets, when he can get it and cannot complain. The result is that he (the horse) is gorged during a portion of the day and starved during the remainder.

Let us consider the custom in general use throughout the service. Five o'clock or 5:30 A. M., stable sergeant remarks "Horses not to be watered because they don't drink well at this hour." He remembers that it will be so much easier for the watering to be done after the early morning grooming when a larger number (not all) the men are there. The stable hands hurry to grain and hay the horses; they must hurry because they want to be at the dining room when mess call goes. Assume that the horses have been fed six pounds of grain and five pounds of hay; they must hurry because the troop will be down to groom shortly and perhaps they will be removed to the picket line for grooming and the stable hands will want to hurry and police the stable. The horse quickly bolts his grain, and promptly follows this by devouring as much of the hay as possible. (If he is off his feed, that is his lookout, and his identity will not be detected if he stands in a different stall every night, which is a practice in perhaps only a few troops).

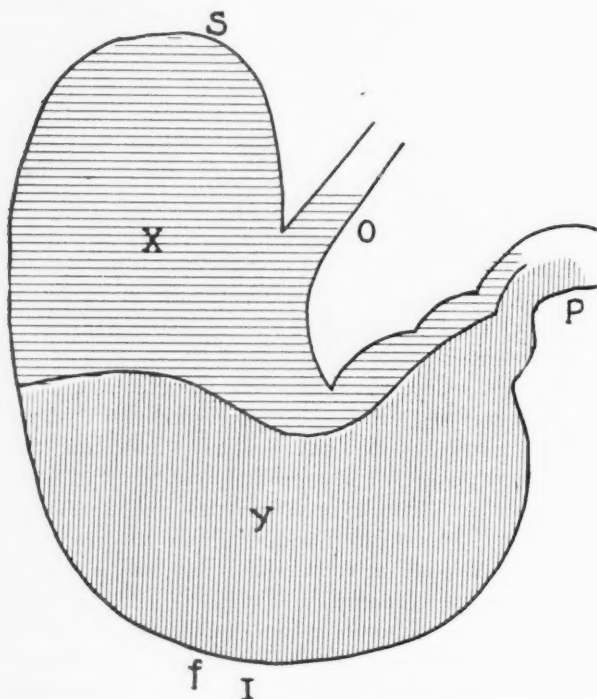
He is then groomed and will no doubt be watered immediately after grooming. It is true that the grooming at another time (after exercise) will do him more good and that watering at this time will impede digestion, but "Boots and Saddles" will sound very shortly and everybody must hurry.

Except that we water first, we repeat the same schedule in the evening. (I have often wondered who was responsible for that wise order requiring three feeds a day, which was certainly a step in the right direction.)

Let us now consider the subject of digestion. "A Manual of Veterinary Physiology," Smith—relative to the "Arrangement of Food in the Stomach," from which I quote (See diagrams herewith,) states:

"An interesting, practical and physiological study is the effect of feeding horses on different foods in succession. When hay is given first and oats afterwards, the hay is found close to the greater curvature and pylorus, and the oats in the lesser curvature and cardia; no mixing has occurred, both foods are perfectly distinct, and a sharp line of demarcation exists be-

tween them (Fig. 41, I).^{*} During digestion mixing occurs at the pylorus but nowhere else; no matter what compression the contents have undergone as the result of gastric contractions, the foods always remain distinct. The presence of the oats, however, causes the hay to pass out more rapidly than it would

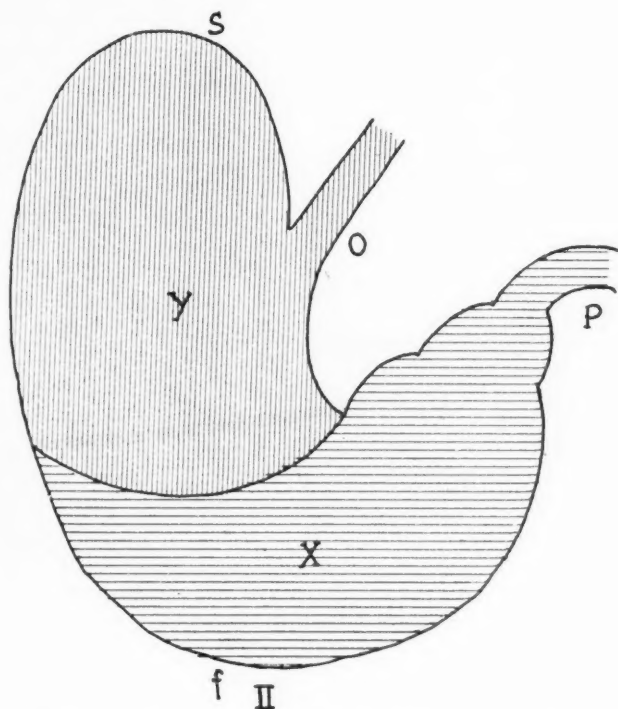


Hay first; followed by oats. "Y" shows the hay and "X" the oats. The latter passes along the lesser curvature and escapes with the hay at pylorus.

have done had it been given alone. Colin observed that half the hay, but only one-fourth or one-sixth of the oats, would, under these conditions, pass into the intestine in two hours. Ellenberger has shown that when hay and oats are given in

^{*}Figure 41 of Smith's Veterinary Physiologs shows a longitudinal section of the horse's stomach, giving the arrangement of the food according to the order in which it was received. In each case "O" is the esophagus, "P" is the pylorus; "S" the left sac; and "F" the fundus.

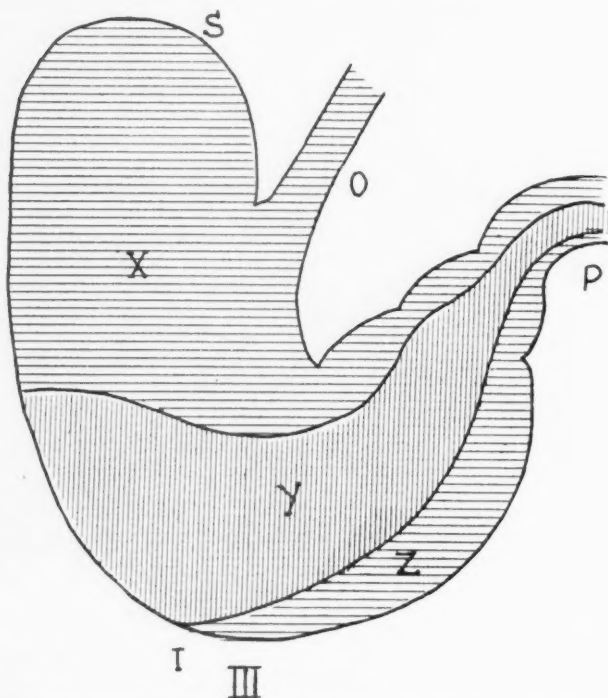
this order, a portion of the oats may pass out into the bowel by the lesser curvature without entering either the left sac or fundus of the stomach (see Fig. 41,I). When oats are given first, followed by hay, (Fig. 41, II) the oats commence to pass



Oats first: followed by hay. "X" shows the oats and "Y" the hay.

out before the hay, but the presence of the hay causes the oats to pass more quickly into the intestines than they otherwise would have done. If a horse be fed on three or four foods in succession they arrange themselves in the stomach in the order in which they arrived, viz., they do not mix. The first enters the greater curvature, the last the lesser curvature, and it is only at the pylorus that any mixing occurs under ordinary conditions (Fig. 41, III). This regular arrangement of the different

foods in layers is only disturbed when a horse is watered after feeding; under these circumstances the contents are mixed together and digestion thereby impeded. Apart from this, the influx of a considerable quantity of fluid into a stomach already containing as much as it should hold, means that material is



The order of three successive feeds. "Z" shows the first feed, "Y" the second, and "X" the third.

washed out of it into the small and large intestines, and this may set up irritation and colic. By watering a horse after feeding more than half the food may at once be washed out of the stomach. The water which a horse drinks does not remain in the stomach, but passes immediately into the small intestines, and in the course of a few minutes finds its way into the caecum; hence the golden rule of experience that horses should be watered first and fed afterwards. We may summarize these facts by

saying that in a succession of foods the first consumed is the first to pass out. That does not mean to say that the whole of it passes out before any of the succeeding food enters the bowel for we have shown that after a time, at the pylorus, they mix and pass out together; but the actual influence of giving a food first is to cause it to pass out first. The practical application of this fact, according to Ellenberger, is that when foods are given in succession, the least albuminous should be given first. This appears to distinctly reverse the English practice of giving oats first and hay afterwards, but perhaps only apparently so, for experiments shows that the longer digestion is prolonged, the more oats and the less hay pass out, so that some hay (under ordinary circumstances a moderate quantity) is always left in the stomach until the commencement of the next meal. The presence of this hay from the previous feed may prevent the corn of the succeeding meal from passing out too early. According to Ellenberger, in order that horses may obtain the fullest possible nutriment from their oats, hay should be given first *and then water*: This carries some of the hay into the bowel and after a time the oats are to be given. The remaining hay now passes into the bowel and the oats remain in the stomach. This does not accord with English views of watering and feeding horses, which have, however, stood the test of prolonged practical experience."

The point I am trying to make is that our lack of system in feeding results in a vast waste of forage and our animals are generally ill-conditioned. So many horses when turned loose in the corral after morning drill are famished for food. Their morning grain has been pushed through them mostly undigested and yet some troop commander is surprised to see his mounts eat their droppings at this time.

Many Department Commanders reduce the forage allowance by order. This I consider bad practice for while it may be beneficial to the animals in one post, it may prove detrimental to those in another; this is particularly the case with our present slipshod method of feeding. The reduction should only be made by the Post Commander and depend upon not only the season of the year but the duty performed or to be performed. Troop officers should be assembled by the Post Commander

from time to time to inspect all the Troop mounts and discuss the good and bad practices prevailing in the several organizations. In this manner their interest will be aroused and we will soon have as keen a rivalry as now exists among the several Troop messes.

The relative feeding value of the several grains and grasses will soon be the order of study on the part of Troop officers. When suddenly ordered for duty on the Mexican Border or elsewhere in the field where the forage previously used is not available, they will know when to feed and what quantity of the substitute forage should be given.

I venture to remark that many, since serving along the Mexican border, have learned that Alfalfa must be fed as a concentrate, not as a hay and that crushed barley must be handled carefully and not in the same manner as oats.

THE STATUS OF THE MILITARY DEPARTMENT IN THE LAND-GRANT COLLEGES.*

BY EDWARD ORTON, JR.

OF all the provisions made by governments or by private citizens for the education of the people, in this or any other country, in these days or those of the past, few, if any, can be compared in importance and far reaching effect to the Morrill act of 1862. It has brought into existence a group of institutions without a parallel in the field of higher education, either in the breadth of choice of their educational menu, their accessibility to people of all classes, or in the extent to which they are patronized.

In the Morrill act, as in all other documents of great import, every word and phrase has been studied and its various possible signification discussed. These matters are still under a more or less spirited discussion, which must continue until sooner or later the general consensus of opinion crystallizes.

There is one provision in this act, however, which is not ambiguous in its meaning, yet which is subject to wider differences of interpretation than any of the really debatable clauses. I refer to the words, "and including military tactics." Everybody knows just what this means. There is nothing permissive or optional about it. It means that it was intended by the framers of the law that military instruction should be an integral part of the training given by every land-grant college.

That there are very wide differences at present in the way that a military department is administered in the several land-grant colleges is unquestionable. In some the military discipline is like that at West Point, always in force, and the student

*This paper was prepared for presentation before the Land-Grant College Engineering Organization and was read before a joint meeting of that body and the Association of American Agricultural Colleges and Experiment Stations.

lives in barracks, under a strictly controlled schedule. In others the drill lasts one hour per day, but continues through five days a week for the entire four years of the college course. In most of the institutions, drill occurs on three days a week for two years, in others, two days a week for two years, and in others three days a week for one year. From this it appears that while an equal obligation rests upon all institutions founded under the Morrill act to maintain military instruction, there are really very great differences in the extent to which this obligation is felt or recognized in the different colleges.

My purpose in calling attention to these conditions is partly to raise an objection to this lack of uniformity. I think that it is improper that institutions which receive the same bounty should requite this bounty in such very different measure.

But the more important part of my purpose is to call attention to a much more serious matter, viz., the wrong mental attitude which most of these colleges assume toward military instruction, in the fact that they give as little of it as they think will pass muster. I deplore the loss to the students, too the schools, and to the Nation from this faulty conception of what the military provisions of the Morrill act are capable of accomplishing, if administered with sympathy and wisdom. It seems to me that many of us are not giving a good stewardship of the talent, which has been put into our hands. Especially do I desire to convince this body that we, as college executives, are failing seriously to take hold of and make effective use of one of the very best tools in our whole educational kit.

The chief motive for the insertion of the military drill requirement in the Morrill act was probably to strengthen our feeble military preparedness by the creation of a body of educated citizen soldiery, which in time of war would become an asset of great importance to us. It was evidently inspired by the serious shortage of persons fit to become officers in the Civil War, which was then in progress, and the terrible suffering of our troops, due to the incompetence and inexperience of their officers. This motive is still the most important one which can be brought forward from the government's side to justify the expenditure which the military drill feature of the Morrill

act specifically occasions. But, while I thoroughly believe in this reason for exacting drill in land-grant colleges, still from the standpoint of these schools I consider it of secondary importance, compared to the intrinsic value of the military drill as an element in the education of any young college graduate. It is for the benefit of the institutions themselves, rather than for the improvement of our national military preparedness, that I am urging that the military drill be treated with more seriousness and consideration.

RESPECTS IN WHICH COLLEGE MILITARY INSTRUCTION IS OF VALUE.

(1) *Disciplinary value.* Military drill supplies a conception of authority, and respect for authority, which nothing else does or can furnish. It is needed more now than half a century ago, and will be needed increasingly as time goes on. How many of the young men that come before you in your administrative capacity for advice or reproof give evidence of being reared in a well ordered and well disciplined home? How many cases come before your notice of young men who are lawless and disobedient at college because they have never been controlled at home? Or, worse still, in how many cases where discipline by the university is inflicted upon a young man for infraction of the rules, do his parents show their incapacity for government by siding with the offender and encouraging him in his folly, by misplaced sympathy and by appeals for the waiving of the university's regulations in his behalf? With our colleges full of young men of such undisciplined antecedents, and the proportion of such growing instead of decreasing, the need of a discipline, fundamental, vigorous and absolutely impartial, is apparent. No greater kindness can be shown an undisciplined, spoiled boy, whose mother is too weak and whose father is too busy to control him, than to put him under military control, where he learns to obey first and ask why second, and where punctuality, self-control, neatness, and absolute truthfulness are the first requisites. No military discipline can ever give a boy what he ought to get at home, but for the boy who does not get discipline at home, the military training is of inestimable worth.

Obedience does not come from precept or from intellectual conviction solely, or even chiefly; it comes from the knowledge of power and authority; and while intellectual conviction should always be used to its limit in securing obedience, there must always be the shadow of the big stick in the background, whether one deals with savages, or boys; or college professors. That is why a good military department in any college is invaluable. It is the one branch of college work where authority visibly rests upon its actual source of power.

(2) *Physical advantage.* Young men who come to college may be divided into two classes—those who are in earnest and those who are not. Happily the first class greatly predominates. But both classes make the same error, though from different reasons. The big does not want to drill because it takes too much time. He has a convenient chance to get a laboratory section or something else, and he does not want to quit and put on his uniform, just when an hour or more would finish an experiment or complete a problem. The idler on the other hand finds that drill interferes with his watching or taking part in the college sports or something else, and hence he would like to be excused. An hour of brisk marching in the open air, with head up, shoulders square, and with every sense alert, under the inspiring influence of mass action, team work and military music, is a grand finish for the day of a college student, and a grand preface to the evening meal. In college or out, humankind are prone to neglect the simple laws of health and fail to take exercise. The drill would be worth while ten times over if it did no other thing than to force students to exercise regularly in the open air. One of its great merits is that it catches the very fellow who would not get the exercise except upon compulsion.

(3) *Intellectual benefit.* As a purely intellectual exercise, military drill is in one respect the equal of any course in college, viz., power of concentration. It keeps a constant demand upon the attention of every man in the company every minute that it lasts. It is memory exercise at first, but as soon as familiarity and practice bring a certain degree of automaticity to the common movement, the nature of the demand changes

and the strategical phase of the subject is developed. The handling of troops, even in a simple military ceremony, requires not only concentration but constructive ability, and the moment that the work leaves the field of ceremony and takes up real military maneuvering, such as skirmish drill, out-post duty, etc., the constructive element becomes predominant. No one, officer or private, can acquit himself well in a spirited, snappy drill without giving a high degree of concentration to the task. The more advanced the work becomes, the more broad and diversified demand does the work make upon the intelligence of the student.

It may be objected that the real intellectual labor falls upon the officers, indeed upon the one officer in command. It is undoubtedly true that the leader does the most work and gets the most benefit, but in a student organization the procedure differs from that of the army, in that every effort is made to vary the leadership and to give the opportunity of leadership to as large a number as possible. The modern formations favor this, for every eighth man is a corporal and responsible for his seven men, and every sergeant has his squad or platoon, etc.

(4) *Development of character.* The old adage that "no one can properly control others who cannot first control himself," is one of these eternal verities which cannot be too often driven into the minds of the young college man. Any young engineer looks forward to controlling others. In a sense every young college man does, whether he is an engineer or not, but in law and medicine and agriculture, the future direct control of a force of men does not loom up on the horizon as it does to one who expects to play a leading part in the railroad, mine, or factory. But how shall we get this power of leadership? How shall we learn to impose our will upon others and still keep their respect and regard? I believe in the laboratory method in most things and I believe in it here. To give a young man power to control others, let him first learn how to obey and to take orders from others. Next, give him a minor responsibility to direct others, and coach him on his faults when he begins. Give him increasing chances to command as fast as he develops ability to use power.

The military organization in a large college offers an ideal method of giving just exactly this opportunity. In a college regiment the size of the companies is usually cut down materially, and the number of officers can be increased considerably over the statutory proportion, without diminishing the prestige of the officers' position to any degree. In this way large numbers of the men get the experience of commanding troops—in fact, every one who develops the least facility or promise in that direction. A young man who cannot develop leadership in a military organization is a young man whose attributes as an engineer need investigation.

Another factor in leadership is the ability to read character. No better place exists in the world to practice this art than in the selection of men for office. Every company captain must study his men, and in making his selections for promotion, under the watchful care of his superior officer, he himself learns a most important lesson.

Another factor in character building is the high standard of personal honor which must go with any effective military control. A soldier is taught a very simple but a very severe code of behavior. He must tell the truth and hate a lie. He must enforce respect for his own rights and must show equal respect for the rights of others. As he wears the uniform of his organization, he must be a gentleman, first, last, and all the time, or he will disgrace his friends as well as himself. He must love his country and serve it with a single mind, even to death. Not a bad platform for a young college man to learn, is it?

(5) *Technical training of engineering value.* Every intelligent man knows that the losses in the wars of the past have been chiefly caused by disease; that those actually killed or incapacitated by wounds are only a small percentage of the whole. Every one knows, or should know, that the life of an army officer is very largely spent in taking care of the physique, strength and health of his men. For a few moments or a few hours of his life, he may be in battle, where a bullet, or a shell or a poisoned arrow may rudely interrupt his career; but more, than 99 per cent of his life is spent in getting ready and keeping ready for this crucial moment. His task is to live right, to conserve and develop his own physical powers, in order to set a

good example, and to be able to see that his men do the same. It involves knowledge of the elements of dietetics, the use of water for drinking, the care of one's own person, keeping clean, keeping a whole skin, and treating wounds and minor injuries. It involves the much more difficult task of seeing that others, who do not know or comprehend the danger, or who lack the self-control to suffer privation, are not allowed to take direct, sanitary risks.

Every manufacturing or engineering enterprise is like an army in the fact that its effectiveness is dependent on the physical effectiveness of its men. And how often on the frontiers in industry, as on the frontiers in war, does the success of an enterprise depend on the ability of the engineer or superintendent to make his men live as they should? How many of our railroad camps, drainage camps, highway camps, and factories are decimated by typhoid, cholera, diphtheria, yellow fever, tuberculosis, syphilis, etc., while work is delayed or stopped and time, money and life are lost, because the engineer in charge did not know that it was his business to protect his men from sickness as well as from accident?

There is no other school so effective in such matters as a well managed camp, where every detail of the sanitation is carefully planned and executed, and where the art of feeding, housing, policing and keeping a body of men well, in spite of unusual conditions of life, is taught by practice as well as precept. Every engineer ought to have the advantage of such an experience as a fundamental part of his education.

But besides sanitation and care of men, military science has many other useful lessons. Military procedure is really engineering. Every military enterprise,—the transportation of supplies, the bridging of streams, the mapping of the country, the making of roads, the making of guns and weapons, the construction of forts and armaments, the science of ballistics, and every other unenumerated branch of the subject is nothing more than the application of the methods of engineering to the art of warfare. Engineering is, therefore, very properly the backbone in the instruction given in every military school in the world.

The engineering schools ought to try to avail themselves of that part of military engineering experience which is appli-

cable to the peaceful arts of commerce and manufacture. No right minded man will deny to the soldier the credit for what he has done to make the world more civilized, more orderly, more healthful, more habitable. Shall we not take from his experience that part which we need in our daily affairs.

WAYS IN WHICH THE COLLEGE CAN MAKE THE MILITARY WORK
EFFECTIVE.

If there is anything in these ideas as to the ways in which a military department can be of service to a college, or even in any one of them, then it would seem that it would be worth while seriously to examine ourselves and see if we are doing what we can and what we ought to make use of this force.

I do not wish to minimize the work that has been accomplished, and is being accomplished, by the military departments of the land-grant colleges under existing conditions. To my mind they deserve in most places the very highest praise for doing so well, with so much indifference to overcome and, often, in the face of veiled hostility. Nevertheless colleges can certainly do a good deal more to make the military work more successful.

(1) *Backing up discipline.* The college owes no more important duty to the military department than strongly to support the discipline which the latter seeks to enforce. The drill may be short and infrequent, but while it lasts it must be rigidly administered if it is to do any good. Too often the faculty has been guilty of actually subverting discipline, by winking at infractions of the rules, graduating men in spite of shortage of military credits, allowing students to cut drill in favor of some technical duty, etc.

(2) *Academic credit.* The college should acknowledge the educational value of military training as the equal of any other subject in academic weighting. If a subject is put upon a student's class card as a requirement, with no other credit than a penalty for failure to perform it, that subject is certain to be viewed by the student as an exaction to be gotten through but by no means to be taken seriously. It is discounted in advance. If the college treats the military department with re-

spect and consideration, the student will in time adopt the same attitude, but not otherwise.

(3) *Military courtesy.* Another way to dignify the military work is for the faculty to observe generally and punctiliously the little formalities and courtesies which a military organization makes possible. If the faculty recognizes salutes and gives them to military officers, the value of the office is enhanced and discipline is strengthened. The whole tone of a college, and the relations of its professors and students in class and out, can be greatly improved by the faculty taking the slight trouble to maintain in their work and contact with students a little of the formal courtesy which is required as a matter of course by the military department in its own internal relations.

(4) *Time allowance.* Another thing which can be done to help the military work along is to grant sufficient time to the subject, so that the course can be made to include some of its interesting phases and not be confined to a mere repetition of the manual of arms and company formation. Military science, like any other college work, should be so taught that the student can see his own progress, and also see that there is much more to know than he will get a chance to learn. Any active-minded group of college boys can learn the ordinary drill in a very short time if they have the faintest interest in it. The fact that they sometimes accomplish so little is because they have so little interest in it and receive no intimation from the faculty that they are expected to feel otherwise. If the instruction is progressive, so that a second year man is not expected to do the same thing as the first year man, and the third year man is required to do yet more advanced work, the student's interest is soon enlisted. When there is so much that should be taught, it is a pity that the A B C of it should occupy all the time.

(5) *Adequate instructional force.* Another and a very important thing which the college can do, is to provide adequate teaching force. No college in the land would expect one professor of mathematics to teach a thousand students, nor would it think that it had done justice to its students if it had manned the mathematics department with one professor and an ever ex-

panding and ever changing corps of juniors and senior student assistants, to handle the freshmen and sophomores. Without doubt mathematics could be so taught, but any institution that attempted so to teach the subject would lose caste. Yet that is exactly what all of the colleges are doing with their military departments. One army officer seems, in the mind of the colleges, to be able to leaven the whole mass of students with military knowledge, no matter whether there be a company, or a regiment, to a brigade to be handled.

I am not advocating the employment of army officers to do away with or take the place of the student officers. The opportunity to command and to handle troops is a most important part of the military training of the student; but the cadet officer, as well as the troops, should be under the watchful care and daily coaching of a competent teacher. The colleges ought to take the leadership in recognizing this situation. The rule should be that no officer should ever be required to take charge of more than four hundred men, and that where more than four hundred are enrolled, a second officer should be detailed, and a third when the number exceeds eight hundred and so on. It might be argued that with but one hour a day for drill, the work of these men would be light. This would not be so if they took their duties seriously and really gave themselves to the task of building up their work. Target practice, tactic classes, art of war and advanced instruction would keep them busy. It may be objected that the number of officers available under the law of 1893, under which army officers are now detailed, does not permit doubling the detail of officers upon full pay and allowances at one college, except by depriving some other institution of its detail. This, unfortunately, is the situation at present, but it is a matter that can be remedied. The law has been amended twice to increase the number of officers available, and can be amended again to provide the number that modern conditions demand.

Meanwhile there is nothing whatever in the terms of the Morrill act which requires that the land-grant colleges shall depend only upon army officers to give the instruction in military tactics which the law prescribes. They may, if they so desire, go out and secure as military instructors anyone whom

they can find who knows the subject, whether retired army officer, militia officer, or civilian. Since the War Department does furnish one officer free of charge to the college, the temptation is very natural to assume that the government's duty is to supply more when needed, and therefore, to limit the training to what the one officer is capable of doing until the Government sends more. But I contend that this is radically wrong in principle and in practice, and there is no reason why the college should feel absolved from further responsibility in the matter of providing more instruction when needed. If the War Department withdrew all officers, the schools would still have to provide military instruction just the same.

THE NEEDS OF THE COUNTRY AND OF THE COLLEGES ARE IDENTICAL.

My next thesis is that it is just as important, or more so, to the country at large, and to the War Department in particular, that the military work of our land-grant colleges be strengthened, as it is to the colleges themselves. The officials of the War Department look at the provisions of the Morrill act, and the acts of 1890 and 1907, as being intended to remedy the terrible shortage of officers felt in the Civil War, and, later, in the Spanish War. In view of the very small number of graduates of land-grant colleges who go into the army or even into the militia, and in view of the inability of the War Department to keep track of these graduates or to have any kind of hold on them in event of war, these officials cannot see where all the millions that have been poured into these colleges have thus far done anything in particular to improve the military preparedness of the United States. They partly overlook the very wide dissemination over the country of educated men who have had some military knowledge and experience, and who doubtless would flock to the colors in time of need, but their dissatisfaction and unwillingness to place their trust on such an intangible military asset is entirely natural. It simply means, in event of a sudden expansion of the army in war time, that we shall have a recurrence of the conditions of the Civil War, except that we now have a populace somewhat better trained in military science from which to select.

With the War Department looking at our work in this light, we cannot expect the Government to give us more help unless we can show very clearly that our inefficiency from the military standpoint is not wholly our own fault, that we desire to rectify the situation, and that we cannot do so without further assistance and coöperation.

In order to prove this contention, it will be necessary to discuss briefly the military preparedness of the United States.

Size of the Army. The present status of the army is not satisfactory to those who are in it or those who are out of it, so far as the latter have knowledge of the facts. It is very small considering the population, extent, and exposure of the country. It is, we hope, very efficient for its size, and we believe that it would give a very excellent account of itself, as long as it lasted, in a serious war. Its weak spot is that it has no efficient reserve which could be mobilized in time of trouble.

To create a reserve, two things are necessary—competent officers and willing men. The officers must be competent as well as willing, for an officer cannot be made in a day, no matter how much good-will he brings to the task. In short, a competent officer is a highly trained professional man, whose education and experience must cover five years at least. With competent officers, willing men can soon be made into an effective military asset. The problem of officering the reserve is the real problem, and the one in which the schools can assist in the solution.

The militia reserve. To supply a reserve, two plans have been considered. The first one is to nationalize the state militia under the Dick act. This has been a good measure and is doing a good deal that it was hoped it would do. It has greatly improved the efficiency of the rank and file of the militia. It has trained their officers somewhat. It has welded them more closely into a really national body, but it has not increased the strength of the militia force, nor has it removed its one greatest source of weakness—the elected officer. The highest grade of military discipline can never be developed where the officer holds office by the suffrage of the rank and file. The militia, therefore, does not constitute an efficient reserve, either in numbers or in quality, and it certainly could not be depended

upon to supply many extra officers for the speedy recruiting of a still larger volunteer force.

The veteran reserve. A second plan for recruiting a reserve has been to keep in touch with all discharged soldiers of the army so that they could be quickly called together in time of need. No money is now available for this purpose, and hence, the men have no sufficient inducement to keep the War Department advised of their whereabouts and do not do so. Until Congress passes legislation for a paid reserve, we shall continue to make little or no headway in this important phase of our national defense. The discharged soldiers are not of proper caliber for commissioned officers in any case, and, hence, do not touch the problem we are considering.

West Point and the private military schools. West Point for a long time has not been able to fill the ordinary vacancies of our regular standing army. Every year a considerable number of vacancies are filled with fairly efficient graduates of private military schools, a very few graduates from land-grant colleges and some from civil life with a minimum of fitness or efficiency. A few officers are also secured from the rank and file of the army, after passing rigid examinations. All combined, these sources are barely able to supply the needs of our small standing army, and would therefore, not be able to make much of a showing in providing officers for a reserve or a volunteer army.

The McKellar proposition. There is now pending before Congress a bill (H. R. 8661) to establish and maintain military training schools in the several states and the District of Columbia. These schools must have not less than three hundred students per annum. They will be given an annual Federal appropriation of \$80,000, and a State appropriation of \$40,000. The total annual Federal appropriation contemplated is \$3,920,000. To teach military science in these forty-nine schools, on a plane of efficiency comparable with West Point, or even the better grade of private military schools, would require from three to six army officers per school, exclusive of the instructors for civil subjects. This would require from one hundred and fifty to two hundred officers at the least, which would add \$500,000 to the cost of the plan. The Secretary of War has refused to

approve this bill and has urged that such a sum of money should rather be used to establish a paid reserve.

The army student camps. There have been recently established two student camps, one in California and one in Virginia, conducted by the army for the benefit and training of students in military schools, including land-grant colleges. These camps last six weeks and have been attended by less than two hundred and fifty students. Attendance is voluntary and students must pay their way to and fro, but are subject to no expense except subsistence while in camp. Any student who becomes dissatisfied can withdraw at any time, so that real military discipline is not enforcible. Fifteen or more officers are detailed to supervise and instruct at these camps.

This experiment is a good one as far as it goes, but it does not go very far. It undoubtedly tends to stimulate military enthusiasm in the young men who attend the camps, and also greatly assists in increasing their military knowledge and competence. But on its present basis it cannot become a very important measure, because the expense to the students rules out the ones who are most likely to make effective use of such an opportunity, and it gives the training to young men who are headed for West Point and the Army anyway, and who will get the training in time much more thoroughly. It really touches the problem of the reserve officer only to a very limited extent.

The land-grant colleges. The Government is paying out annually, under the act of 1890 and the Nelson amendment of 1907, the sum of \$2,400,000, and the land-grant colleges are also receiving many millions more from the fruits of the original Morrill act, which sums are now a tax on the Government's resources. This great sum of money goes to a large group of land-grant colleges which are required to teach military science as a condition of their existence. They are doing so in such a perfunctory and spiritless way that the War Department can see little practical return, so far as military preparedness is concerned. The Secretary of War, in a recent report to a congressional committee, says:

"In this connection it may not be improper to invite your attention to the fact that there is now and has been for many years in each of the several states an agricultural and mechani-

cal college aided by the Federal Government, where the law requires that military education be given with a view to training young men to act as subalterns of volunteers. These colleges were created by the Morrill act of 1862 and were further endowed and supported by the second Morrill, the Nelson, and subsequent acts. By these acts Congress sought to prevent in the future the serious shortage of the Civil War in officers and provided liberally in funds for this purpose, and yet, in spite of the earnest endeavors of the War Department, extending over a period of years, the purpose of Congress has been largely defeated, while at the same time its appropriations have been used. This is due to the failure of the acts to be specific in stating what shall be done and the failure to provide a penalty for the institutions not carrying out the purpose of the acts."

THE LOGIC OF THE SITUATION.

Out of all this, two facts stand out clearly. The first is that it is the obvious duty of the Government, instead of embarking upon new and expensive experiments, like the McKellar bill, to take hold of its present machinery and make it go; and the second is that it is obviously the duty of the land-grant colleges to wake up to this part of their obligation to the Government, and, besides removing all obstacles of their own making which stand in the way, to set themselves seriously to make some actual military output of a quality which the Government can recognize and use.

Neither the Government nor the colleges, operating separately or alone, can succeed in this matter. It is a matter for coöperation. We already have the organization for doing what is needed. No new one is needed. With a few simple changes, the whole system can be made to work successfully and economically, to the great saving of the Government in its quest for more officers, and to the much greater efficiency of the colleges.

Here are the things which ought to be done:

First. Pass an act defining a reasonable minimum of military instruction which every land-grant college would have to maintain. This minimum should include.

(a) Not less than two years of military drill for all students except those exempted for cause.

(b) Not less than three separate periods per week under military control, with not less than one hour per period.

(c) The discipline during military drill periods to be strict, with insubordination punishable by suspension from college.

(d) The instruction to comprise drill in manual of arms, squad, company, battalion and regimental drills, military ceremonies, target practice, skirmish drill, outpost duty, and not less than one week of camp per year, and class room instruction in tactics, and in the care of men and sanitation of camps.

Second. Pass an act requiring the frequent examination of the efficiency of this work by the War Department, with power not only to withdraw their officers from the institution failing to maintain proper standards, but also to enjoin further payments under the act of 1890 and the Nelson amendment, until the case of the college in question has been brought for adjudication before some authority designed by the President.

Third. Amend the act of 1893 which limits the number of army officers who may be detailed to educational institutions to one hundred, so as to make it possible to detail one active or retired officer under full pay and allowances for each four hundred students under military discipline.

Fourth. Pass an act requiring all land-grant colleges to which two or more officers are detailed, to provide a four-year course in military engineering, said course to include, beside the fundamentals of a good engineering education, four years of military drill, and instruction in such courses in advanced military subjects as the Secretary of War may prescribe.

Fifth. Pass an act permitting the Secretary of War to appoint all graduates to such military engineering courses as second lieutenants in the army for a period of one year following their graduation, with full pay and allowances, at the end of which time their appointment may become permanent, if vacancies exist, or they may go into civil life, retaining their commission as officers of the reserve.

Sixth. Encourage the respective States to pass laws, connecting cadet regiments in the land-grant colleges with the na-

tional guard of those States, in the same general relation that the United States Military Academy bears to the United States army, to the end that the military equipment now furnished to the national guard by the War Department may be available to the cadet regiments as well, and that the officers now detailed in the several States to inspect and instruct the militia may be available for similar purposes for the cadet regiments, and, also to the end that the students, who do not graduate in the proposed military engineering course but who take an interest in military affairs, may be more readily absorbed into and become a part of the militia of the States upon leaving college.

This sixth item is really of very great importance, for the reason that the army officers now detailed to the militia could, without any additional expense to the War Department, do a large part of the work proposed in the other parts of this scheme, and because the artillery, cavalry, signal corps, hospital and camp equipment now in the state arsenals could be made vastly more efficient and useful than it now is without in any way decreasing its value for the present purposes. In short, the War Department has now in the various states, officers and equipment enough to carry out the major part of the above plan without additional cost.

CONCLUSION.

The duty of the Land-Grant College Engineering Organization seems to me perfectly clear. It cannot by its own legislation bring any of these things to pass. It can appoint a committee on military education to study the whole subject and to find out how far their respective land-grant colleges would care to coöperate towards the attainment of these ends, and, after conference with the War Department, to prepare legislation for submission to Congress and to the several state legislatures.

The present is the psychological moment for this organization to act. The War Department is considering various plans to get more officers for a reserve and for active duty. Thus far none of them have been very productive. Congress is considering new and expensive legislation to create new military schools, duplicating what we already have. If we step forward now and show both the War Department and Congress

where they can save money and gain their ends more efficiently, and at the same time add greatly to the effectiveness of our own colleges, we shall have most richly justified our existence as an organization.

May I say in addition that the one thing that it seems to me is the most important in this whole discussion is the recommendation there that there shall be a specific military engineering course in the land-grant colleges, a course which will have a military outcome, just as we now have a civil engineering course and produce civil engineers, or a mechanical course and produce mechanical engineers. In view of the governmental expenditures at these colleges we are in duty bound to teach this subject. The fact that the War Department needs a body of men which we are not producing but can produce and which they are not getting from any other source, shows that we have thus an opportunity to be of incalculable benefit to the whole country. If our engineering schools will devise a simple course of military engineering we can yearly turn over to the Government a number of graduates; and the Government can, by making these men second lieutenants for a year, make it well worth the while of any young man to take such a course. He would secure a year's salary as an army officer. Even if he stayed but that one year, he would still be a trained soldier, available in time of war. At present the Morrill act is simply slightly upgrading the military intelligence in the population at large, and it is failing to produce a highly specialized product.

THE ACTING CHAIRMAN: We will now have the pleasure and honor of hearing from General Leonard Wood, Chief of Staff of the United States Army.

ADDRESS OF MAJOR GENERAL LEONARD WOOD, CHIEF
OF STAFF, UNITED STATES ARMY.

One of the most encouraging signs of our military situation is found in the paper which has been presented here today. It outlines what the Department is trying to do in the way of establishing more effective relations with the educational institutions maintaining courses in military instruction. It presents a most intelligent grasp of the situation with which

we are confronted. The Department is most anxious to give more assistance to the military departments of these land-grant colleges than has been given in the past. By assistance I mean assistance in the sense of getting in touch with these departments through the school section of the general staff and bringing about a better understanding and a fuller measure of coöperation. The main difficulty we have nowadays is to secure suitable officers for this college work, for officers, like other men, are not all fitted to teach; they are not all possessed of those peculiar qualities which attract young men and make a task sometimes uninteresting, interesting. In other words, there are many admirable officers who are not adapted to take hold of the work at institutions such as you gentlemen represent. You have outlined in this paper a plan for securing reserve officers which is on a line with one which I have presented from time to time during the past year. I believe the idea is a sound one, and one to which we can turn with the certainty of securing efficient officers for a reserve who will be available in time of war. It has always been my conviction that we must make a rational preparation for war. Our people do not seem to understand that wars are not emotional affairs that they are governed by great influences. Governments do not make wars, but are generally simply the instruments of the people in declaring war. Wars are really declared by the people and officially announced by the Government, and they are brought about by influences almost as uncontrollable as the seasons.

We all believe in the largest possible measure of arbitration, but we all know that there are some things, like citizenship and other matters which pertain strictly to us, which are not open to arbitration. Much as we wish to avoid war we shall inevitably be confronted with it in the future as we have been in the past. If we are called upon to mobilize a force to meet the early stages of war, with a first class power—and you must remember that we have never had such a war, or at least we have never fought such a war unaided—we should require a minimum of 600,000 men. That it is not a large number is apparent when one remembers that in the Civil War there were 2,600,000 men in the Northern armies and over 1,000,000 in

the Southern armies. In view of the length of our two coast lines, it is a very small number; and that is all we are trying to arrange for. Now the regular army and the militia under their present organization, together would not furnish more than 150,000 dependable troops, and we should have to raise about 450,000 men from the population. You hear much talk about our tremendous military sources—undeveloped resources in the term most commonly used—and used with a certain sense of satisfaction by those who understand nothing of what preparation means. Undeveloped military resources are just about as useful in time of war as an undeveloped gold mine in Alaska in a panic on Wall street. It is a valuable asset if you have time to develop it, but not otherwise, and it will not help you during the crisis. You have just seen a great war with the decisive battles fought in the first month. Wars are coming that way. Modern wars come quickly, and when they come upon us, whoever our antagonist may be, he will take advantage of the fact that we are never ready, and war will be made with more than usual promptness in order that we may not be able to assemble even such scanty organized and trained resources as we have.

How are we going to get officers for these 450,000 men? This is a serious question. It means at least 15,000 to 16,000 officers. Where are they coming from? Officers cannot be created over night. We had for a long time a reserve force of officers, men who fought in the Civil War. We had in the North probably two million men, most of whom had had military instruction, and many of them service in war. In the South there were probably a million who had had military service and experience. In this great mass of men there were many thousands of officers. For twenty years after the Civil War many of them were available and still of an age which rendered them fit for military service. They are no longer available, and our supply of officers must come from some other source. I believe we could, acting upon the joint recommendation of the president of the university and the officer of the army in charge of the military department, select each year from the five or six thousand graduates of colleges and schools having military instruction, five hundred young men who have taken the military

course creditably and appoint them, subject only to physical examination, as provisional second lieutenants in the different arms of the service—coast artillery, field artillery, infantry and cavalry—and pay them for that year the full pay of a second lieutenant, which, with allowances is worth from about \$2,200 to about \$2,400 a year. A young man who is fairly economical and careful ought to be able to leave the service with a minimum of \$800 at the end of the year. We should not require the more expensive uniforms but only the working outfit. This scheme would give us as reserve officers, young men who have had from two to four years in a military school under the direction of an army officer, and one year in the regular establishment. They would be better trained reserve officers than are most of those in foreign armies. It would be an economical and easy way of securing officers and would tend to popularize military instruction in these colleges and schools.

The War Department itself has been rather inert until recently in the matter of military education. This inertness was due to the fact that up to the time of the Spanish-American War we were dealing with a police situation—the Indian situation. We had a small and highly efficient army we encouraged reenlistments, we forgot all about the emergencies that would arise in the case of a war with a first-class foreign power, and drifted on without thought of the military situation that confronts this country and will confront it in case of such a war. Lately, the general staff has been considering the question of reserve men and of officers. We shall eventually solve the difficulty. We must have behind the regular army an adequate reserve and behind the militia a strong reserve, because we cannot develop the men quickly—nothing less than three months at least—and war will come very quickly when it comes upon us. The very fact that we are unready will be an inducement for suddenness.

We are trying to encourage a reserve idea in our militia and for the regular army, and I think we will be successful. If this Association will push forward the recommendations made in this paper, it will find the War Department in a receptive mood, and anxious to coöperate wherever possible. Once we can plant in the minds of the people sound ideas of military

efficiency and a true idea of our military history—which few possess—we shall begin to get an intelligent response.

The doctrine we are preaching to the people is the maximum number of men instructed to be soldiers with the minimum interference with their economic careers; that is, the maximum number of men who have had training enough to make them reasonably efficient soldiers, under conditions which will return them to civil life with the minimum loss of time, and so instructed as to be available as soldiers when required. The economic value of military training is very great. Men thus trained are more effective in their work, more responsive, more respectful of authority, do things more promptly and do them exactly as they are told to do them, which makes them all around better working men. Almost without exception, the thinking men in the larger European countries are agreed that two year's service in their armies are a distinct gain to the Nation; that as a result a man when he comes out is a better workman, a better machine, more observant of instructions given him, and acts more promptly and efficiently, and that the time spent in undergoing military instruction is not time lost any more than that spent in instruction in a school or college. He is being trained for something, trained for systematic, concerted effort. He is a better citizen.

Then there is the humane side of preparation to be considered. If you were asked to put crews of untrained men into the life boats on our Atlantic coast, to handle them in case of necessity, you would object strenuously. You would say: "These men are untrained. It is criminal to put them into these boats. They do not know how to handle them, they do not know how to row." Yet we go on deliberately, as a people, and turn out thousands of youngsters under incompetent officers under conditions more serious than those of any local storm. We throw their lives away with brutal recklessness; too stupid to prepare, we waste wantonly.

We are preaching preparedness, not militarism. We want to get, and are getting, the cordial support of men like yourselves. I hope you will all get behind the recommendations made in this paper. On the part of the War Department I can assure you that the Secretary of War is deeply sympa-

thetic with what you are trying to do. We are trying to develop a sense of responsibility in the young men of this country, a sense of responsibility towards their military duty. We educate them to perform all sorts of civil duties, but do not give sufficient attention to their military duties.

We do not seek to make professional soldiers or jingoes, but we do want to plant in our people a sensible and sane idea of preparation, what it means, and what its value is; its value not only as tending to the improvement of our fighting force, but its value as a matter of humanity, because if we are well prepared, war will not be thrust upon us, and if it is thrust upon us, we will be able to make it short and carry it through with a minimum of loss, because our officers and men will know how to perform their duties efficiently.

ADDRESS OF CAPTAIN S. J. BAYARD SCHINDEL, WAR COLLEGE
DIVISION GENERAL STAFF, UNITED STATES ARMY.

Dean Orton has clearly indicated what the War Department is trying to do. Its action in any given case depends largely upon the report of the college inspection board. The land-grant college presidents know of what this board consists, what its duties are, and how its inspections are carried out. This year's inspection showed several things; that the work of the officers on detail at many colleges was indifferently regarded by the faculties, whereas at other colleges it met considerable encouragement; that frequently facilities were not afforded for carrying out field exercises, or for adequately preparing students for their duties as competent officers in time of war.

College military training is really divided into two parts; first, the ordinary drill, a mere mechanical proposition which inculcates discipline and concentration of effort and mind on the part of the soldier, but does not prepare him altogether for field duties; and, second, field training. In this latter line of work, *i. e.*, field training proper, the War Department is most interested. It must usually be conducted outside the ordinary limits of college grounds, on the roads, where plenty of varied ground is to be found and where the different formations can be explained.

In those schools where the facilities for field training exist, the battalion has been found to be up to a good standard in this respect. In other schools, where more time is put on ordinary drill and instruction, it is thought that the graduates are not up to the required standard. It is right here that Dean Orton has struck the key-note. Through the engineering department we expect to train a man so that he has an eye for ground, so that he can recognize the localities best calculated to teach the various duties of the infantry soldier. Through the engineering department the cadet is taught those subjects which are necessary for the building of the lines of communication, the arteries through which the food and other army supplies must flow. These subjects must be considered the real basis of military education so far as scientific attainments go; hence I consider his suggestions most pertinent.

The War Department, as General Wood has said, sympathizes with any effort on the part of the colleges to improve this work and to accord to the military department a status equal to that of other collegiate departments. In many colleges the engineering department feels, as does the military department, that it receives less encouragement than does the department of agriculture. This feeling is acute in some places. It is to be hoped that through coöperation with the War Department the work of the entire cadet force at each of the several colleges may be brought up to such a standard that the graduates of a land-grant college will possess the same attainments, so far as military training is concerned, as do the graduates of the best military schools. The War Department is sympathetic with the ideas broached by Dean Orton and seeks your coöperation in raising the standard of the work which is being done by collegiate military departments.

THE MINIMUM DISTANCE WHICH A CAVALRY
DIVISION COULD BE ADVANTAGEOUSLY
MOVED BY RAIL INSTEAD OF BY
MARCHING.*

(a) *Division to move from Fort Leavenworth to Topeka,
distance sixty miles, single track railway.*

BY CAPTAIN E. L. KING, SECOND CAVALRY.

IN this problem it is assumed that there are ample terminal facilities at Topeka; that those at Fort Leavenworth and Leavenworth as are actually to be found at present; and that the supply of rolling stock is sufficient for the demands. These assumptions are rather forced but allowances for them are made later.

Most authorities agree that a single-track railway can handle about eighteen trains per day. This admits, however, of trains going in the opposite direction, so that allowances must be made for delays at sidings. In discussing this problem I assume that the tracks are cleared and that twenty-five trains a day may be run.

Passenger trains are usually made up of from ten to sixteen cars per train, an average of twelve cars per train is assumed; freight trains are made up usually of from sixteen to thirty cars per train, an average of twenty-five cars per train will be taken.

In this problem it is believed that it will be safe to allow a speed of twenty-five miles per hour for all trains.

*Staff Class problem at the Army Service Schools, 1914. These two discussions of this subject were found in the Staff Class study rooms after the hurried graduation of the classes, owing to the recent threatened outbreak of war. They were but rough drafts of the reports to be submitted and it is understood that they had not been discussed in conference and a final combined report agreed upon.—*Editor.*

Paragraph 240 of the Field Service Regulations gives as a maximum per train the following, the organization being at war strength:

Two troops of cavalry, or
One battery of artillery, or
One company of engineers with bridge train.

It is assumed that a signal corps company will require the same accommodations as a company of engineers.

For the transportation of a cavalry division there will be required, therefore, the following:

For Division Headquarters—five cars, to be attached to another train.

For nine regiments of cavalry—twenty-seven squadrons, fifty-four trains.

For one regiment of artillery—six batteries—six trains.

For one battalion of engineers—three companies—three trains.

For signal corps troops—two companies—two trains.

It is believed that the estimate of six trains for the artillery is conservative as these are horse batteries. The engineers are mounted and have a light bridge train. The above includes the estimate for transportation for men, animals and field transportation.

It is also assumed that the wagons are placed on flat cars loaded. This requires more cars, but, under the conditions imposed, it is believed to be justifiable. To load the wagons and haul supplies to the station; then to unload and knock down the wagons and to load on the trains; and then to reverse the operation at Topeka would require a great deal of valuable time.

For the supply and sanitary transportation, it is assumed that the flat cars are thirty-six feet long and that four escort wagons can be loaded on one flat car. Ordinary horse cars will carry from eighteen to twenty horses, say nineteen horses per car.

For the supply and sanitary transportation there will be required:

For two ambulance companies and two field hospitals—twenty-four ambulances and forty-eight wagons—a total of fifty-two wagons—thirteen cars.

For ammunition train—three wagon companies—a total of eighty-one wagons—twenty-one cars.

For supply train—three wagon companies—eighty-one wagons—twenty-one cars.

For animals of ambulance companies and field hospital—284 animals—fifteen cars.

For animals of ammunition train—357 animals—19 cars.

For animals of supply train—357 animals—19 cars.

For animals of two pack trains—130 animals—7 cars.

For animals of quartermaster corps—93 animals—5 cars.

For wagons of quartermaster corps—17 wagons—5 cars.

The above figures would be reduced slightly by adding all together but as the units should be shipped intact, it is believed that this method gives a more nearly correct result.

From the above it will be seen that there will be required for transporting the troops 65 trains; for transporting the supply trains 125 cars—flat and horse.

For the personnel of the supply units there will be required the following, assuming that sixty men be assigned to a passenger car:

Forty-three officers and 539 men—a total of 582 passengers—10 cars.

This gives a total of 135 cars for the supply units, or six trains, and a grand total of seventy-one trains for the entire division.

Under the assumption made that twenty-five trains can be run each day, it will be seen that it will require three days to transport the cavalry division from Fort Leavenworth to Topeka.

The above assumptions make no allowance for the time required for loading or unloading and also assumes that there are perfect terminal facilities at both places. It is further assumed that the troops work for twenty-four hours each day. While it may be assumed that perfect or nearly perfect terminal facilities exist at Topeka, it is well known that such is not the case at Fort Leavenworth. It would be necessary to build ramps for the wagons and horses and everything would have to move like clock-work in order to keep the trains moving on

schedule time. Actually, it is probable that the time should be increased by fifty per cent.

On the other hand, a Cavalry Division should be able to make the march to Topeka in three days and arrive in shape for immediate service. The distance could be covered in forty-eight hours by assuming that the start is made at noon on one day and arriving at noon on the second day, actually three marching days but requiring only forty-eight hours. This time could be reduced by making a forced march.

The conclusion, therefore, is that the Cavalry Division should be able to arrive at Topeka in forty-eight hours after receiving the order for the march and be in good shape for work on arrival. If transported by train, it would require at least three days and many of the troops would arrive at night with the attending confusion and it would probably take five or six days to move the entire division. Then, they would not be in as good condition as in the case of marching over-land.

(c) *Division to move from Fort Leavenworth to St. Louis—distance 250 miles—single track railway.*

By Captain W. C. BABCOCK, Thirteenth Cavalry.

A cavalry division can move from Fort Leavenworth to St. Louis, 250 miles, with an average daily march of 18 miles, in 14 days.

To move the division by rail, including supply, ammunition and pack trains, will require eighty-two trains. All the trains will include passenger coaches, stock cars, flat cars, baggage cars and box cars, except the train carrying pack animals which needs no flat cars. Trains will contain cars varying in numbers from thirteen to thirty-four. The latter number is for trains carrying two wagon companies of the supply and ammunition sections. These longer trains would be started last. There will be required 1,630 cars of the five types mentioned, and average per train of about 20 cars.

The composition of each train is shown in the table on the following page. It is assumed that a passenger day coach

TYPE OF CARS

Train load consists of	No. of Trains	COACHES		STOCK		FLAT		BAGGAGE		BOX		TOTAL CARS PER TRAIN
		Train	Total	Train	Total	Train	Total	Train	Total	Train	Total	
2 troops cav.....	27	4	108	10	270	2	54	1	27	1	27	18
2 troops cav. & Sq. Hqrs.....	27	4	108	11	297	2	54	1	27	1	27	19
Cav. Reg. Hqrs. & M G. Co.....	9	3	27	11	99	2	18	1	9	1	9	18
1 btry. Art.....	6	4	24	11	66	1	66	1	6	2	12	29
Art. Reg. Hqrs & 2 Bn. Hqrs.....	1	3	3	8	8	3	3	1	1	1	1	16
1 Eng. Co.....	2	2	4	7	14	2	4	1	2	1	2	13
1 Eng. Co. & Eng. Bn. Hqrs.....	1	3	3	8	8	3	3	1	1	1	1	16
Div. Hqrs. & 1 Sig. Co.....	1	3	3	10	10	6	6	1	1	1	1	21
1 Sig. Co. & Sig Bn. Hqrs. ..	1	3	3	8	8	4	4	1	1	1	1	17
1 Amb. Co.....	2	4	8	8	16	10	20	1	2	1	2	24
2 Field Hosp.....	1	5	5	10	10	11	11	1	1	1	1	28
2 Pack Trains and Q. M. Corps not elsewhere counted.....	1	2	2	11	11	6	6	1	1	1	1	21
2 wagon Cos. of Amn. & Supply Train.....	3	2	6	12	36	18	54	1	3	1	3	34
TOTALS.....	82		304		853		303		82		88	

Aggregate number of cars, all kinds, 1,630. Average cars per train, about 20.

Sanitary personnel attached to Cavalry Artillery, Engineers and Signal troops, is proportionally distributed among the respective trains and is allowed for in above table.

carries fifty passengers, three men to each two seats, and two men over; a stock car, twenty animals; a flat car, three wagons or two guns or caissons. The box cars are for forage for the trip, or for one day. Baggage cars carry horse equipments, team harness, pack rigging, etc.

If, during the troop movement, the regular passenger and freight traffic of the railroad is suspended, assuming an average running time of twenty miles per hour (including routine stops for water, changing engines, etc.), twelve and one half hours will be required for one train to reach St. Louis, and, with careful train dispatching, the troop trains could follow one another at fifteen minute intervals, provided the loading could be accomplished sufficiently rapidly. The trains would then follow one another at a distance of about one block of five miles.

Except in extreme emergency, however, the regular passenger and freight trains will run as usual and, therefore, either north bound regular trains or south bound troop trains must side track, depending on which kind of traffic has the right of way. It would be possible, with the help of the current time card of the railroad, to determine the stations at which each troop train would have to side-track for passenger traffic and how long it would have to remain on the several sidings before the road ahead was clear. This would be a long task and would be of no permanent value because of the frequent change in regular time schedules. Then again, freight trains, I understand, are not run on a precise schedule, so that, for this reason also, the computation would have little value.

We can assume that, on the average, the troop trains will have to pass fifteen north bound passenger and freight trains, and that each time the troop train is side-tracked means an average wait of fifteen minutes. These assumptions may be a little excessive, but they are on the side of safe conclusions. Such delays will add three and three-fourths hours to the running time and require a sixteen and one-fourth hour trip.

Even if the facilities at the starting point were such that any desired expedition in loading were possible, it would be unwise, on a single track road, to start the trains at intervals of only fifteen minutes. This is about the time necessary to

cover the usual five-mile block at a twenty-mile rate, so that it is easily possible that there might be two south bound troop trains on the same block at the same time. This in itself is not particularly objectionable; but if, at the same time, a north bound passenger or freight were approaching the block, there might be confusion and delay unless the sidings were long enough to accomodate two troop trains at once. It would be better, therefore, to start the trains at intervals of not less than thirty minutes, or the running time for two five-mile blocks.

Five trains of ordinary length, say of twenty cars each, can, according to the local railroad agent, be loaded at the same time on the various sidings at Fort Leavenworth. If each train made up in its proper running order of cars, could be loaded with men, animals, vehicles, forage, etc., all on the same siding, the dispatch of trains could be rapid, only allowing for the proper safety interval between trains. At examination of the existing sidings, however, shows that in many places the ordinary portable ramps for animals and vehicles would not suffice and that such could be loaded only at certain favorable places. The personnel can entrain practically anywhere, except on a trestle, but the stock cars, flat cars and box cars must have comparatively level ground adjoining, that is, they cannot be loaded satisfactorily in a cut or on a fill. Hence the different kinds of cars in any one train must be loaded on different sidings and afterwards be made up into a complete train by switch engines. This is unfortunate and tends to create confusion and mistakes, but with organization and supervision extraordinary delay can be avoided. I do not think that a battery train, for example, containing twenty-nine cars could be loaded as a train, without the switching of cars. Loading facilities such as platforms, portable ramps, etc., both for animals and vehicles, can be constructed in a short time, say over-night, so that the only delay is that required for the actual entraining and the switching.

The accumulation of so large a number of cars will take, according to the local agent, some three or four days. It is a fair assumption that one-quarter of the total cars required can arrive each day. The Fort Leavenworth sidings, however, are not of sufficient extent to accomodate 400 cars at one time,

one-quarter of the 1,600 total required; especially is this so when the stock, flat and box cars must be in positions favorable for loading. Examination shows that the favorable positions are limited in extent. Whatever the capacity of the sidings under these conditions, it follows that, in view of the single track main line, more empty cars cannot be run on to the sidings until the lot already there are loaded and dispatched. To bring in a new lot of empties from Leavenworth city or from other near-by sidings and to distribute them, according to kind of car, to the proper loading siding, will require much time. Of course any loaded train remaining at Fort Leavenworth could not be dispatched while the empties are coming in. This necessitates a considerable interval between groups of trains during which interval not even loading can be in progress, since there are no cars at hand to be loaded.

I do not know how much time to allow for switching loaded cars together into a train, nor how long a time is needed to bring up and distribute a new supply of empties. The loading and switching at night, the shifting of ramps, and many other details that only one more experienced than I in railroad work can foresee, will further tend to increase the interval between dispatch of trains. On this point I think the off-hand statements of the local railroad agent cannot be relied upon. I believe that the dispatch of fifteen trains in twenty-four hours, with the existing sidings and switch arrangements, is all that can be safely expected. At that rate the average interval between trains will be a little over one and one-half hours, or ninety-six minutes.

Assuming that entraining continues without interruption, day and night, then five days and nine and one-half hours must elapse between the departure of the first and the last train. Adding two hours for the loading of the first train (two troops of cavalry), sixteen and one-fourth hours for the trip of the last train, and one and one-half hours for unloading the last train (supply sections) gives a total of $149\frac{1}{4}$ hours, or six days, five hours from the beginning of loading to the complete unloading of the division at St. Louis. This is so far within the estimated marching time of 14 days that, even with 100 per cent. increase

of delay in departure of trains, it will still be quicker to transport the division by rail than to march.

The estimate of six days and five hours, clearly depends more on the assumed time interval between trains than on any other one consideration; it follows that the travel time of any train is a small fraction of the total time and that, roughly, the rail trip is as long in hours as the march trip is in days. Also for varying rail distances, the running time is the only time variable.

Since for marches of not over one week's duration the daily march can be increased in length slightly without harm, it follows that distances of from 120 to 150 miles can be covered by a cavalry division about equally rapidly by rail or by marching; that distances over 150 miles can be more quickly covered by rail; and that distances under 120 miles can be more quickly covered by marching.

THE USE OF CAVALRY.

BY MAJOR N. F. MCCLURE, FIFTH CAVALRY.

BULLETIN No. 18, War Department, October 3, 1912, was published to the army with a view to systematizing and coördinating cavalry instruction in our service.

The principles laid down in paragraphs 1 and 2 are as follows:

"1. Mounted action is the main rôle of the cavalry arm and its organization, armament, and instruction should be with a view to rendering it effective in such action.

"Dismounted action is, however, a very important rôle of the cavalry, and neither an organization nor the method of instruction which fails to provide for the effective use of cavalry dismounted will enable it to perform fully its function in war.

"2. The organization should be such as to permit of the greatest mobility, which is the essential quality of the cavalry, while providing units of great smashing power in the charge and a sufficient number of rifles to make effective its use when required as a dismounted force."

We thus see from Paragraph 1, that mounted action is the main rôle of cavalry. This does not mean on the battlefield, exclusively, but also in various other ways which will be noted as we come to them.

This requires good, well trained horses, ridden by active, well trained men. It goes without saying that these men must be good riders. They must be armed with both the saber and rifle (or carbine) and they should also be armed with large caliber revolver or pistol. Our board of cavalry equipment favors also the bayonet and the entrenching tool. These, in my opinion, add too much weight to make it advisable to carry them. The few times which we would be called upon to use them would hardly compensate for the extra weight. The

pistol at close quarters, dismounted, should account for two or three adversaries, and if the enemy outnumber us more than two to one and gets that close, the bayonet will not stop him.

Some entrenching tools are carried by cavalry in the combat and field trains. On account of its mobility, cavalry would often be able to requisition and collect tools from the inhabitants. In these days of steam and gasoline plows, to say nothing of other farming implements and road-making machinery, it ought not to be difficult to collect in a reasonable time implements for such work.

Where the portable tools would be missed would be in the case where cavalry attacking dismounted would have to halt under fire to await reinforcement or until some other part of the line was ready to advance. In this case it would probably be impracticable to carry along the improvised tools on the firing line.

The question of using cavalry on the battlefield in shock action mounted is one that has been of late years much discussed, and some of our cavalry officers are advocating a reorganization of our regiments into smaller ones, in the belief that such action will facilitate the use of cavalry in shock action. I believe that this is a mistake. Our present organization, in my opinion, is the best that we have ever had. It can be adapted handily to any method of action that our cavalry will be called upon to perform in campaign, except the charge in two or more ranks. By the addition of two or three pages to our drill book we can provide a method for the latter training and still retain all the excellent features of our present organization.

Undoubtedly we should be trained in both single and double rank.

By my remarks above, I do not mean to intimate that our drill regulations should not be revised. They should be, and this should result, if well done, in shortening them by 150 to 175 pages. These regulations have not been revised in reality since 1902.

Now as to mounted action on the infantry field of battle. In future, the opportunities for this use of cavalry will be few indeed. We must be trained and prepared to do it when necessary as a sacrifice to gain time, etc., but the cases in which we

will be successful will be rare unless there are specially favorable and unusual conditions favoring such a course.

Against other cavalry, however, we shall often have to resort to the mounted charge, and this is why we must be trained for it, and why, also, we must be armed with the saber. This weapon weighs but little and is not difficult to carry attached to the saddle. Many of our cavalymen have advocated discarding the saber and using the pistol or revolver in the mounted shock action.

Partisans, whose men were excellent pistol shots, have achieved some success with that weapon alone. Many examples of this can be cited from the history of our Civil War.

Our regular cavalry must have the saber as well as the revolver. The moral effect of the former weapon is so great that cavalry, having it, can easily gain the ascendancy over hostile cavalry not having it, other things being equal.

Seldom in future will we see regular cavalry made up of expert revolver or pistol shots, and such only would have a chance against cavalry armed with both weapons. In this discussion I have not mentioned the lance. Its use is contrary to the genius of our people and it does not now seem probable that our cavalry will ever be armed with it. I do not doubt but that it is a fine charging weapon where mounted masses are used in the attack, but it certainly is an awful inconvenience at all other times, particularly in reconnaissance work.

These disadvantages make it an unsuitable weapon for American cavalry.

The dismounted action of cavalry will be touched upon under the head of Paragraph 8 of the Bulletin.

Some of our cavalry officers consider that our cavalry regiment is too large.

The three principal arguments which they bring to support this view are: 1, That one man cannot handle so large a body of men by voice or trumpet; 2, that the regiment is too large as a unit for divisional cavalry; 3, that it is not suited in size for use in mounted shock action.

In my opinion not one of these objections is well founded.

I saw my entire regiment drilled and exercised a great many days at Schofield Barracks. There was nothing developed

there to show that there was or would be in future any trouble in handling a regiment of from 1,000 to 1,150 mounted men. It is true that we never had over 600 men at drill but it was easy to see that twice this number could have been handled without difficulty.

Our present organization seemed to meet every requirement of the drill ground, the march and the field exercise. In my opinion, it is well adapted to every use in campaign, except the charge in double rank, and, as I said before, this can be provided for without changing our present excellent system of instruction and organization.

If thought too large for divisional cavalry, our flexible organization would admit of assigning one regiment (less one squadron) to the Infantry Division. The two odd squadrons from such an assignment could be organized into a provisional regiment and assigned to a third division. That is, two regiments of cavalry could furnish the cavalry (divisional) for three Infantry Divisions.

Personally, I do not consider one regiment too large for this duty. I can give my reasons for this if any one desires them but the principal ones are that with our system, or lack of system, in repalcing losses, one regiment, a month after the campaign opened, would be down to 800 to 900 men, not an excessive number and that the Division Commander would have at least one troop for his escort and for provost guard duty.

"3. Cavalry must maneuver freely and widely without fearing too much for its rear; and being often at a distance from the main body of an army, its commander must be clothed with authority to conform to actual conditions."

This probably refers more particularly to large bodies of cavalry.

The same rules apply also to smaller bodies. They must not worry too much about their line of retreat. If they once become separated from the Infantry commands to which attached, their commanders must exercise a wide discretion, but such officers must never forget their missions and must do their utmost to regain connection with the main force, to which they are attached, so as to resume their proper duties of screening and reconnoitering.

"4. While the chief task of the cavalry is to assist the other arms in accomplishing the common object, its rôle is often of primary importance. The action of cavalry must be bold and daring; it must, whenever practicable, assume the initiative, seeking out the enemy and placing him upon the defensive."

These important requirements, will be discussed more fully under Paragraph 8. What is said of cavalry being bold and daring is true. Cavalry which remains upon the defensive rarely ever accomplishes anything. The same is true of cavalry which does not habitually take the initiative.

Many examples may be cited from the lives of Sheridan, Wilson, Stuart and Forrest to show the success that habitually attends the bold and daring leader.

"5. The principal weapon of cavalry in mounted action is the horse and the force of impact should be utilized to the utmost. The terrain and nature of the operations will determine which of the other weapons must be used."

In mounted shock action the horse is the most important factor. The formula, $\frac{MV^2}{2}$ illustrates this. M is the mass, V the velocity. Hence medium sized horses which can reach a charging gait of eighteen to twenty miles per hour, at moment of impact, will have greater shock action than heavy horses moving from fourteen to sixteen miles per hour.

In all other respects, the medium sized horse is superior for cavalry use to the heavy horse. He eats less, is easier to mount, is more active, is less trying on the rider, stands work on poor roads or in rough country better, and can attain a greater speed.

Of course there are individual exceptions to this rule, but in the main it is correct.

The terrain and circumstances, in each case, must determine whether the pistol or the saber will be used in mounted action. If attacking in masses, the saber will usually be the proper weapon while for encounters with hostile patrols, attacks on convoys and other partisan work the pistol would first be used in most cases, to be followed later, if necessary, by the saber in the *mêlée*. Seldom, indeed, will it be proper to use the rifle (or carbine) in mounted action.

See paragraph 408, Cavalry Drill Regulations.

"6. When circumstances permit, cavalry opposed to cavalry should fight mounted, thus retaining the mobility and power of maneuver necessary to its security and success."

The reasons for these rules are almost obvious. As soon as a cavalry force dismounts to fight on foot, it becomes immobile or nearly so. If it is equal or superior to the enemy, it should maneuver for the advantage of position and attack him mounted. Even if inferior, it may, by a bold attack, gain the advantage and, by enterprise and skill, maintain same. If hopelessly inferior, it had better resort to the defensive, using natural obstacles, such as villages, rough country, mountain passes or river lines. If these fail it, then it must fall back to the protection of its infantry, to escape annihilation.

But this does not mean, however, that it should remain supine or inactive. Even when forced to take a defensive rôle, patrols of selected men sent out under bold leaders, will be able to gain locations by stealth or by boldness, or by both, from which they can obtain important information; and these specially fitted men will often get this information back to the army, too.

By skillful maneuvering, the commander of an inferior force of independent cavalry may stay in the field and accomplish much towards keeping the enemy under observation and preventing him from gaining information. Many factors govern in such cases, among which are taking advantage of natural features, moving at night, boldness, knowledge of roads, use of guides and a well-trained personnel.

"7. The historical value of cavalry, including the experience and evolution of our own and that of other countries, must be carefully studied, and due consideration should be given to the greater magnitude of our future cavalry operations as compared with our experiences since the Civil War."

This is a plea and an order to keep up the instruction of the cavalry arm on the lines of making use of large bodies in future wars.

The ordering of a large proportion of our cavalry to the Southwest was partly because the War Department had decided to get enough regiments in that part of the country to admit of large bodies of cavalry being assembled from time to time for instruction and training.

In working out plans for this, we should be governed largely by the use made of cavalry in our Civil War.

By studying how such men as Sheridan, Wilson, Stoneman and Kilpatrick employed cavalry on the Union side, and Stuart, Forrest, Wheeler and Morgan on the Confederate side, we have a vast fund of information on this subject, second in importance to that of no other nation in the world. In using this data, we must, of course, consider the changes that have occurred since 1865. General Wilson has just given us his experience in a work of two volumes. It is entitled "Under the Old Flag." This should prove to be an excellent work from which much data may be obtained. Major Gray's book on "Use of Cavalry in the Civil War," is also excellent.

Biographies of all the leaders, mentioned above, also exist, and the Rebellion Records are filled with the deeds of our cavalry all of which are not, however, to the credit of the cavalry. But when a leader has made a mistake we can learn from it as much or more as when he has been successful.

General von Bernhardt believes in the teachings of our Civil War. (See von Bernhardt's *Cavalry in War and Peace*, pages 5 and 367 on Civil War.)

"8. The use to which cavalry should be put in campaign is summarized as follows:

- (a) To seek and destroy the enemy's cavalry.
- (b) Screening, contact, and reconnaissance.
- (c) Seizing and holding important advanced or isolated positions, thus delaying the advance of the enemy until the arrival of the other arms.
- (d) To operate on the flank and in the rear of the enemy.
- (e) Raids and other enterprises requiring great mobility.
- (f) The mounted charge at the opportune moment against Infantry or Field Artillery.
- (g) Energetic pursuit of a retreating enemy or covering retreat of its own forces.
- (h) When none of the above rôles has been assigned to it, cavalry may go to the assistance (dismounted) of hard pressed infantry to fill gaps in the firing line."

Taking these in order we see that (a) is to destroy the enemy's cavalry and (b) to screen, gain contact and gain information.

These are closely related to one another for the best way to carry out the three requirements of (b) is to seek out and destroy the hostile cavalry as required by (a).

At the same time, we render the enemy's cavalry timid and impotent, and incidentally protect our flanks, rear, and line of communications. These considerations account largely for the modern principle advocated in handling cavalry; of keeping the greater part of your cavalry concentrated or the units within supporting distance of each other, until the hostile cavalry has been defeated.

Observe that concentration in this case does not necessarily mean that all the cavalry is in one place or marching on one road. In large bodies, the columns may be bivouacked some distance apart or, if marching, there may be two or more columns on parallel roads, within supporting distance of each other. But even if beaten by the enemy, the cavalry must still endeavor, primarily by stealth and later by boldness and taking chances, to accomplish what the enemy by force has prevented it from doing.

A situation can scarcely be conceived where cavalry should throw up the sponge and quit. Rather let its commander be like Forrest at Fort Donelson, who forded a supposedly unfordable stream in the night rather than to surrender. The most desperate situation will not daunt such a leader. If you cannot do what you want to do, then do the next best thing but never say die.

Defeat alone cannot excuse subsequent inaction. Screening, contact and reconnaissance naturally merge into each other. By the first, cavalry prevents the enemy from gaining information; by the second and third he keeps the enemy constantly under observation and thus limits the zone of active patrolling. If properly performed, every movement of the enemy is soon known and a large part of the theater of operations requires but little surveillance, since we know exactly what part is occupied by his troops.

In all these rules, the usual method is to keep from two-thirds to three-fourths of the cavalry concentrated, using the remainder to patrol and keep contact. This is kept up until the hostile cavalry is defeated decisively. Then the command may be divided if circumstances seem to require it.

Before the enemy is whipped, however, the command moves on one or more central roads and sends out the smaller fractions, divided into reconnoitering troops or squadrons as the particular case may require. Each of these reconnoitering units usually has a road assigned to it and along this it sends out patrols in advance. If on the flanks, it sends patrols also to the flanks and even to the rear of the hostile troops.

If the mission requires the main body to remain in some central position, then the reconnoitering squadrons move forward and hold some natural line, such as a mountain range or river. This is called the defensive screen. If the enemy's cavalry shows up anywhere in force, the main body moves to the support of its reconnoitering units, in that particular locality, and attempts to defeat the same. It then becomes offensive. These reconnoitering units on the various roads, prevent, or greatly limit, hostile reconnaissance toward our own army.

In the contact work, a similar system is followed, the advance patrols of the contact units, constantly feeling the enemy, the main body being held together to gain the mastery at the critical time and place. In all these cases, if the enemy advances on the main road he is attacked and driven back. If he advances on a parallel road on either flank, then the main body moves in that direction and strikes him in flank.

In the reconnaissance work we force back the hostile patrols and endeavor to gain information in our front, but in addition to this, other patrols, many of which are under officers, are sent to the flanks and even to the hostile rear to gain information.

On these lines, von Alten has divided patrols into three general classes.

1. Strategic reconnoitering patrols. These go to great distances and fight only when necessary to escape.
2. Tactical reconnoitering patrols. These endeavor to find out the enemy's dispositions in the front. They do not as a rule fight, though often compelled to.

3. Covering patrols. These are to prevent hostile reconnaissance of our own forces. These patrols are usually not far from their supports and their duty is to fight where necessary to drive off hostile patrols.

Classes one and two grade into each other as do also classes two and three.

The question of the influence of aeroplanes and other aircraft on the usefulness of cavalry has been much discussed. Many of the best writers hold that there is an ample field for both and that one will often succeed where the other fails. The cavalry can be used in so many ways that, in my opinion, it would certainly be a great mistake to try to get along without any cavalry.

Field telegraph, telephones and wireless are also useful adjuncts. The information having been obtained, it then becomes a question of getting it back.

The signal companies must help us in this and it is believed that they will find practical means of doing so in our next campaigns. The experiments of using wireless with cavalry have not as yet proved entirely successful. If it can be so perfected, as to be relied upon, then will it indeed be valuable. In getting back information, motor-cyclists will often be valuable in future. These are confined to the roads, it is true, but much horseflesh can be saved in rear of the advanced lines by using cyclists. The Germans have even organized cyclist infantry companies, which they expect to use in interrupting railroads, seizing important points and supporting cavalry far to the front.

I advocate attaching to each cavalry regiment twenty-four cyclist (motor), six to each squadron and six to regimental headquarters for use in messenger service.

Referring to the screening work of cavalry, one of the best examples of this is the screening of Jackson's column at Chancellorsville when he marched, without being discovered, from the Union center, along the front, at a distance of only two or three miles from the Union lines and finally attacked the Union right and rear, taking the 11th Corps entirely by surprise and doubling it up. In this march of ten miles, made by 20,000 men, Stuart's cavalry closed every road by which the Union

cavalry could gain information of the movement. No more brilliant example of screening work has been accomplished in modern war.

"c. Seizing and holding important advanced or isolated positions, thus delaying the advance of the enemy, until the arrival of other arms."

This use of cavalry is one of the most important.

On account of its mobility, it can be hurried to important points such as depots, favorable positions, threatened points, mountain passes, river lines, etc., to hold the same until the infantry arrives to relieve it. The training of our own cavalry well fits it for this use, because we devote much attention to rifle fire, in our system.

Machine guns and horse artillery add much to cavalry's power in this class of work. Many excellent examples of this use of cavalry can be taken from the annals of our Civil War. Buford's cavalry, on the morning of July 1, 1863, delayed Hill's advance, northwest of Gettysburg, until Reynold's corps came up to relieve it. It then took post on Reynold's left and supported him in the battle which ensued. This action of Buford's, allowed the Federals to secure ultimately the advantageous position south of Gettysburg and was, therefore, one of the main factors in the Federal victory achieved there.

The second incident which I shall cite is the use of the Confederate cavalry when Lee moved his army from the Wilderness to Spotsylvania C. H. In this maneuver General Grant had the start, and seemed certain of throwing his army between Lee's army and Richmond. But Hampton's cavalry division protected the left flank of the marching Confederates at Corbin's Bridge, and the brigades of Fitz Hugh Lee and Rosser seized the advantageous ground lying north and northwest of Spotsylvania C. H. and held on until relieved by Kershaw's division of Anderson's corps. This enabled Lee to place his army between the Federal army and Richmond again. Thus General Grant lost one of the two chances which he had to gain a decisive advantage and the war was prolonged for nine or ten months.

"d. To operate on the flanks and rear of the enemy."

This use of cavalry is a very effective one. Not only is much information gained but also the enemy is caused much uneasiness and opportunities often occur to do serious damage such as to destroy his trains, delay reinforcements, seize a defile or bridge by which he desires to retreat, etc.,

When the enemy is defeated, then the cavalry, by constantly harassing his flanks and rear in pursuit, completes his demoralization. In this work, the cavalry should be strengthened by the addition of artillery unless already strong in horse artillery.

To (d) above, it might have been added "To protect our own flanks and rear." This also is one of the important uses of cavalry. During the battle it must watch the flanks of its own forces and, if the enemy is strong in cavalry, the rear also. In defeat, it must check the pursuit and even sacrifice itself, if necessary, in order to allow the main force to retire and recover from its demoralization.

"e. Raids and other enterprise requiring great mobility."

This use of cavalry has been a matter for dispute among modern writers. Some authorities, including Captain Steele, maintain that raids are of doubtful utility and that in order to have a chance to succeed they must be made in friendly country, temporarily or permanently occupied by the enemy's forces.

If the time of making the raid is well chosen, the force is organized with a special view to mobility, and a definite objective is selected, I see no reason why the chances do not favor success. The force sent must be strong enough to accomplish the desired end and the commander must be specially fitted for such work. If the raid does happen to be made in a friendly country, temporarily occupied by the enemy, so much the better.

The following successful raids by Union cavalry forces during the Civil War may be mentioned: Sheridan's Richmond Raid; Sheridan's Trevillian Raid; Grierson's Raid in rear of Vicksburg, and Wilson's Raid to Selma, Alabama, 1865. Morgan's Raid in 1862 made Bragg's campaign into Kentucky possible by destroying the tunnel at Gallatin, Tennessee. Mitschenko's Raid against Yinkeow failed. Causes lack of mobility; time not well chosen.

The opponents of raiding say that, in the Union raids above cited, exceptional circumstances were responsible for success (Give reasons—Grierson to new base below Port Hudson; Sheridan to new base on James; Wilson connected with Sherman's forces in North and South Carolina. Also in Wilson's case the war was practically over.)

General von Bernhardt, the celebrated writer and cavalry leader, is a firm believer in raids. He says that in future war armies will be so large that their supply will be difficult. Any interference with their communications will be a serious matter and he believes that if raiding parties can cut these lines it will result in large forces being sent back to reopen and protect them.

"f. The mounted charge, at the opportune moment, against infantry or field artillery."

The mounted charge against artillery on the march, or going into action, or limbering up, or changing position, or even in action has good chances of success.

My views on the subject of the mounted charge against infantry in position have already been given above.

When infantry is in a poor position or in retreat, or has been badly shaken, or greatly demoralized, or composed of raw troops, there is a chance for success; but in all other cases the mounted attack on infantry must be considered as a desperate undertaking, to be resorted to in extreme emergencies only.

"g. Energetic pursuit of a retreating enemy or in covering the retreat of our own forces."

Under the heading "d" I have already partially discussed this use of cavalry. The duties "d" and "g" merge into each other. If our cavalry does what is expected of it in the pursuit when our main forces have gained the decision, and in the retreat when they have lost it, then it will have certainly justified its existence. Its action in the pursuit will often be decisive and result in the capture of the hostile army.

Thus Sheridan at Five Forks stopped Lee's retreat, and Wilson, after Nashville, caused the practical disbandment of about half of Hood's army. In the latter case, the cavalry fought dismounted and then took up the pursuit mounted.

In that same battle of Nashville, Forrest, who was absent during the battle, returned in time to cover the retreat and save the remnants of Hood's army. This is a fine example of the use of cavalry in the retreat. Another one is where General Stuart covered the retreat of the Confederate army from Gettysburg, July 5-15, 1863.

In these rôles, artillery and machine guns add much to the power of cavalry.

"h. When none of the above rôles are assigned to it, cavalry may go to the assistance (dismounted) of hard pressed infantry to fill gaps in the firing line."

This requires that the personnel be well trained in rifle firing and also in dismounted work.

This training should take place on the same general lines as is that for our infantry, with such modifications as are necessary in order to care for the horses.

Cavalry should be able to put 60 per cent of its force on the firing line and still have 20 per cent. left as a mounted reserve to protect the horses, drive off the enemy's cavalry, and keep up mounted reconnaissance.

In exceptional cases, where the conditions are especially favorable, it can put from 85 to 90 per cent. on the firing line.

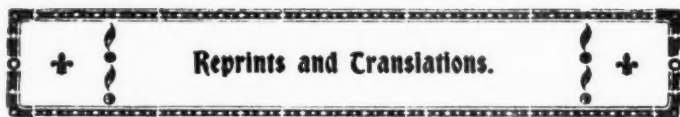
One of the most important uses of cavalry is not mentioned, in Bulletin, No. 18. This is as an escort to artillery. This use generally immobilizes the cavalry or at least confines its action but there are cases where it has to be resorted to.

Often batteries must be hurried forward to critical points beyond the infantry lines or to a flank. If infantry were used in these cases, the artillery would often arrive too late. In battle, too, situations occur where every infantryman is needed in the attack and the cavalry can be used to replace it as a guard for such artillery as needs special protection.

In conclusion, I desire to call your attention to the versatility of cavalry. When properly instructed, not only can it screen, reconnoiter, keep contact, seize distant important points, prevent hostile reconnaissance, cut hostile lines of communication and protect those of its own army, cut loose from its own communications, guard the artillery, guard its own convoys or attack those of the enemy, fight with the saber and

pistol mounted and with the pistol and rifle dismounted, operate on the flanks and rear of the enemy in the pursuit and protect the flanks and rear of its own army in the retreat, fight the hostile cavalry mounted or dismounted, and in exceptional cases charge even the hostile infantry mounted; but also at times it can take the place of its own infantry either on the firing line or as a mobile reserve which can be moved rapidly to any desired point, there to be used as infantry or otherwise as circumstances may require. These qualifications would seem to effectively answer the arguments of those who advocate doing away with cavalry in future and depending on aeroplanes for information.

Also these qualifications would seem to almost justify the boast that well trained cavalry can fight anywhere except at sea.



CAPTAIN CHARLES CORBIT'S CHARGE AT WESTMINSTER.*

AN EPISODE OF THE GETTYSBURG CAMPAIGN.

BY JAMES H. WILSON, LATE MAJOR GENERAL U. S. VOLUNTEERS.

I.

IT is now generally admitted that General Lee after deciding upon the invasion of Pennsylvania in July, 1863, committed a serious strategic mistake in permitting his cavalry commander, the celebrated General J. E. B. Stuart, to cut loose from the army with his three best brigades under Hampton, Fitzhugh Lee and Chambliss. This made a strong column of about 6,000 sabers. Robertson, Jones, Jenkins, and Imboden with possibly 6,000 more were kept with Lee's main army; Robertson covering the rear south of the Potomac for several days, while Jenkins and Imboden were covering the advance through the Cumberland valley into Pennsylvania.

The Federal cavalry of three divisions, under Pleasanton, had engaged Stuart with his entire force before he divided it, between Brandy Station and Kelly's Ford. The fighting was conducted with great enthusiasm but some lack of system on both sides, and while it resulted in a drawn battle, it greatly encouraged the Federal cavalry. Several writers claim that "it made the Cavalry Corps," Army of the Poto-

*Reprinted from "Papers of the Historical Society of Delaware—LXII."

mac. Be this as it may, it is certain that on June 18, Pleasanton attacked Stuart's entire force again at Middleburg, driving it back through Upperville to Ashby's Gap. This spirited operation cleared that region of the entire Confederate cavalry and should have taught its over-confident leader that he could not hope to stand against the entire Federal cavalry with half his own force, and yet in a few days he divided it as shown above, into two nearly equal parts. From that day forth, while it cannot be claimed that Pleasanton did the best possible service with his three divisions, it is certain that he handled them far better than Stuart did his. He had the shorter or interior lines and was always in closer contact with Meade's infantry, than Stuart was with Lee's.

It should never be forgotten that Buford's cavalry division passed rapidly to the front, and opened the battle of Gettysburg with great brilliancy and effect from Seminary Ridge, while Kilpatrick's division, after engaging Stuart as will hereafter be shown, passed rapidly across the line of march to the left of the Army of the Potomac, and with the gallant Farnsworth of the Eighth Illinois Cavalry, brought Longstreet's march by the right flank to a timely halt.

Gregg, the imperturbable, was always in his true place, on the right or rear of Meade's advanced line, ready to meet Stuart whenever he might make his appearance, with his three detached brigades of Confederate cavalry.

While there is no sort of doubt that Stuart had permission to cut loose from Lee, it is more than probable that he neither knew nor explained to Lee just what his own plan of operations would be. It is more than likely that neither had a clear understanding of what might take place for the simple reason that neither could possibly know in advance exactly what would be the movements of the Army of the Potomac or of its cavalry corps. They evidently underrated both the Federal infantry and cavalry, although it is certain that Lee in a general way intended that Stuart in his raid around the Union forces should delay and harass both as much as possible but that whatever less he might do after crossing the Potomac, he should not fail to get into touch with the right of the Confederate columns as they advanced into Pennsylvania. At all events this was

what Lee had the reasonable right to expect from his experienced cavalry commander. But certainly Lee with all his confidence in Stuart and all his contempt for Hooker could not have dreamed that Stuart would under any possible contingency of the campaign, remain absent and out of communication with him and his army for nearly a week.* While Lee's whole conduct of this campaign was far from faultless as his admirers have claimed it to have been, it is inconceivable that he should have deliberately intended or knowingly consented that Stuart's operations should have been conducted in the reckless and purposeless manner that characterized them throughout the campaign.

II.

Lee having defeated Hooker decisively at Chancellorsville, May 1-4, conceived the idea of assuming the offensive, routing the Army of the Potomac, possibly capturing Washington, and certainly, invading Pennsylvania. His hope was that this campaign would in any event result in breaking both the Baltimore and Ohio, and the Pennsylvania railroads, thus severing the direct lines of communication between Washington and the west. This accomplished, with or without another great victory, the Confederate authorities counted confidently on the recognition of the Confederacy by England and France, which in turn would raise the national blockade of the southern coast, and thus enable the Confederates to replenish their military stores, continue the war indefinitely, tire out the national government and finally "gain a triumphant peace." It was a great plan, but it called for the promptest execution and this as the following facts will show it did not get. The Confederate resources were unequal to the task both in generalship and in military supplies.

Lee after Chancellorsville rested nearly a month, beginning his new campaign on June 3d. With varying fortunes he maneuvered Hooker, between June 7th and June 15th, back to the neighborhood of Washington, where he dropped him, and then turned his columns into the Shenandoah valley,

*See Young's *Battle of Gettysburg*, Harper's, p. 134 et seq.

one corps crossing the Potomac at Shepherdstown and two at Williamsport, about 140 miles northwest of the national capital, June 23d-25th. He halted his advance at Chambersburg in the Cumberland valley June 27-28th, sending Ewell's corps towards Carlisle, Harrisburg and York.

Hooker, having correctly devined Lee's movement, crossed the Potomac at Edward's Ferry, 80 miles southeast of Williamsport, and directed his movements on Frederick, Maryland. Receiving here certain suggestions from Washington which he regarded as limiting his independence, on June 28th, he asked to be relieved, which was apparently what the Washington authorities wanted for they accepted it the same day and named General Meade as his successor.

This fortunate change was followed without the loss of an hour by a forward movement on converging and interior lines, between Lee with his infantry and Stuart with his cavalry, towards Gettysburg, where the principal roads of the region seemed to concentrate.

The government by its fortifications at Washington, by a call of Pennsylvania and New York militia, and by the concentration of the Eighth Army Corps under General Schenck had provided efficiently for the defense of Washington, Baltimore, and the railroads connecting them with Harrisburg and Philadelphia. It necessarily from the start gave special attention to the operations of the Army of the Potomac, upon which so much depended.

Meanwhile, Lee having discovered through his scouts, Meade's assignment and the prompt advance of the Army of the Potomac, made all possible haste to gather in his scattered detachments and to concentrate his army at Cashtown in the eastern foothills of the South Mountain range, less than a day's march from Gettysburg.

III.

This was the critical situation in the closing days of June and the opening days of July, 1863. Lee was in the centre of southeastern Pennsylvania with an army of 65,600 infantry

*The Story of the Civil War, by Colonel Livermore, Putnam's Part II, pp. 413, 414.

and 248 guns; 10,000 cavalry and 50 guns—total 75,600 men and 298 guns.

Meade opposed him with seven corps of infantry and one of cavalry, 82,200 infantry, 13,900 cavalry—total 96,100 men and 357 guns.

Both sides have put up their utmost strength. Every loyal state had done its best, and most of them were fully represented in every army corps, and in all branches of the service. The eyes of the nation were on them all. Delaware was represented by her First Infantry under Colonel Thomas A. Smyth, and her Second Infantry under Colonel William Bailey, both of which were in the fighting Second Corps at the very vortex of the battle near the Bloody Angle.

The state had early in the war endeavored to organize the First Delaware Cavalry for three years, but had been only partly successful. Seven troops, or companies, nominally under Colonel Fisher, had been raised and mustered into the U. S. service, but they were afterwards consolidated into four. Of these two troops, "C" and "D" under Captain Charles Corbit and Lieutenant Caleb Churchman, respectively, took the field, under Major Napoleon B. Knight, as ordered by General Schenck. In a campaign where every man counted and every hour was of the utmost importance the part played by any single organization, great or small, may have exerted a vital influence, especially if it caused confusion or delay in any detached or important division of the enemy's forces.*

As it will be shown further on the spirited action of Captain Corbit and his squadron of 130 men at Westminster, on June 29th, constituted an episode of this sort, which deserves a more conspicuous place in the annals of the State and of the United States than has as yet been assigned to it. This will be better understood when the character and the services of Captain Corbit have been as fully set forth as the recollections and reports of his contemporaries will permit.

*By reference to the appendix it will be seen that Delaware furnished to the United States in the War for the Union, a grand total of 9,128 officers and enlisted men.

NOTE:—The Appendix has been omitted as not being of general interest to our readers.—*Editor.*

Charles Corbit was at the outbreak of the war between the States in the full maturity of his young manhood. He was in his twenty-fifth year, nearly six feet tall, strong, vigorous, broad shouldered, long armed and deep chested. He was in every way an ideal volunteer soldier. His earlier ancestors came to England with William the Conqueror, and his later ones to Pennsylvania with William Penn. They were from the first serious, self-respecting people, connected by marriage with the best families in England, Pennsylvania and Delaware. Although in later generations they were Quakers, they were never afraid to risk life, fortune and liberty in the cause of human right.

But the modesty of that sect as well as its hatred of battle and war has always had a controlling influence in keeping them silent on their own performances in that line.

In the ante war days it was customary for the leading men of Delaware, especially the rich farmers, professional men and yeomanry to take an interest in the militia. Two troops of cavalry or dragoons were organized and maintained for several years in New Castle, county. The first was commanded by Captain John W. Andrews, afterwards Colonel of the First Delaware Infantry. The second was organized by Charles Corbit and William Henry Reybold sometime before the war, from the neighborhood farmers in the lower part of the county. It afterwards formed the nucleus of Troop "C," First Delaware Cavalry. So, it may be properly said that the little State, then the smallest in the Union in both population and wealth, was in a measure fairly prepared to meet any emergency demand that might be made upon it in behalf of the general government. Slavery had but a small hold within it, and while a few of its public men were more or less in sympathy with this as an inherited institution, none of them took an active part in or gave serious thought to an effort to carry the State into actual rebellion. The most they strove for at any times seems to have been to see that all national measures against secession were taken in strict accord with the requirements of the Constitution of the United States, in regard to the organization and maintainance of armies for the suppression of insurrection.

As a matter of fact, Delaware, like the rest of the border states, was firmly opposed to the war and did what she could to prevent it, but when it actually broke out her Union men made haste to respond to the President's calls, in turn, first for three months' men, then for three years' men, and finally for one year, nine months, three months, and thirty day men.

The Southern sympathizers remained mostly at home. Captain Andrews took the leading part in organizing the First Delaware Infantry and became its Lieutenant Colonel, under Colonel Lockwood, an old West Pointer, then a professor at the Naval Academy and long absent from the State. On its reorganization for three years, Andrews became its Colonel, vice Lockwood promoted.

Having attended a military school with Meade and Kearney before they went to West Point, Andrew's regiment soon became famous as one of the best in the volunteer army for drill, discipline and efficiency. It was followed (as a three months' regiment) by the Second Delaware Infantry under Colonel William P. Bailey, the Third, under Colonel William O. Redden, the Fourth under Colonel A. H. Grimshaw. There were besides Nields' battery of light artillery and Ahl's battery of heavy artillery, all for three years. It also organized two regiments of nine months' men and mobilized its militia whenever called upon to do so. Altogether from first to last it put under arms for the Union, 9,128 officers and men. This for a State with but a single congressional district, and a population of 112,216, of which 21,627 were colored and only 90,589 were white was doing well. As over half of these were females, it leaves about 45,000 white males of all ages. From these figures it will be seen that the State sent one man out of every five white males in the State to fight for the Union. It is believed that no heavier percentage was contributed by any congressional district in the north.

Shortly after answering the first call for three years' men Delaware began the organization of the First Delaware Cavalry under George P. Fisher, who was to be its Colonel. He offered the Lieutenant Colonelcy to the writer, but this was declined, principally because the War Department would not permit the detachment of regular engineer officers for less than a

Colonelcy of Volunteers. The undertaking, however, overtaxed her resources and although she did her best she succeeded in getting into service only seven companies, which were finally consolidated into four under the nominal command of Major Napoleon B. Knight.

What follows has principally to do with Company "C," under Captain Charles Corbit, three officers and eighty-two men, and Company "D," under First Lieutenant Caleb Churchman, one officer and forty-three men or a total of four officers, and one hundred and thirty enlisted men. In the campaign of Gettysburg they were nominally under Major Knight with Lieutenant William W. Lobdell, Acting Adjutant, but in the sharp affair at Westminister in which they took such a creditable part, they were actually commanded by Captain Charles Corbit till he was captured.

IV.

From the earliest days of the war the Delaware Infantry, especially the first and second regiments, took a prominent part in the operations of the Union forces in Virginia. They both finally became attached to the Second Army Corps, with which they served most creditably to the end.

But the cavalry organization languished from the start, and it was not till the Gettysburg campaign that it got an opportunity to distinguish itself in action against the enemy. It formed a part of the Eighth Army Corps under Major General Schenck, who was charged with the defense of the railroads from Philadelphia to Washington with headquarters at Baltimore. His forces were not only heterogeneous, but scattered all the way from Harper's Ferry to Wilmington. They amounted to nearly 50,000 men of all arms, present and absent about one-half of whom were actually with the colors. But instead of being massed in front of Baltimore, the principal city of the region, they were scattered under the "pepper box strategy" of Halleck, then commander-in-chief, into detachments nowhere strong enough to take a vigorous offensive or to effectually support Meade's veterans of the Army of the Potomac as they advanced to attack Lee's invading columns. The simple fact is that both the Washington government and the

people of the neighboring States were more or less surprised by the turn the war had taken, and were far from ready to act with coherence or vigor. Their main dependence was upon the Army of the Potomac, which had not yet recovered from the depressing effect of the disastrous and disgraceful defeat of Chancellorsville. It was, however, a coherent, aggressive well organized and well officered army, free from the pernicious idea of defending particular places or limited areas, and was above all ready and willing to follow and fight the enemy wherever he might be found. In doing this, under the gallant and patriotic Meade, who acted from the first minute after assuming actual command on the morning of June 28th, with admirable promptitude, vigor and certainty, it had the defensive coöperation of Schenck with the Eighth Army Corps from the South, and of Couch with the Militia of Pennsylvania and New York, from the North and East. But, strange as it may seem, the most aggressive and effective help it received in the actual campaign, from the outside was from Captain Corbit and his handful of Delaware cavalry, in the spirited affair at Westminster on the 29th of June.

In order that this may be properly understood, it should be remembered that the theater in which the opposing armies were operating was a quadrilateral of, say sixty by eighty miles limited on the south by the Baltimore and Ohio Railroad, from Baltimore to the west, on the east by the Northern Central, from Baltimore to Harrisburg, on the north by the Pennsylvania from Philadelphia to the west and on the west by the parallel ranges of the Blue Ridge between which Lee was marching with his invading army.

Westminster was at that time a small country town in Maryland near the line between Maryland and Pennsylvania at the western end of the Western Maryland, then serving as a branch to the Northern Central Railway. This branch projected into the quadrilateral nearly half way to Gettysburg. Westminster at its outer end was connected by good roads with both Washington and Baltimore and these with the branch railroad, caused it to be made a field depot of supplies or a secondary base for the Army of the Potomac. It lies nearly forty-five miles due north of Washington, about twenty-five miles

northwest of Baltimore and something like thirty miles from Gettysburg, all as the crow flies. If fifteen per cent. be added to these figures for road curvature it will give a close approximation the actual distances.

After Stuart with his three brigades crossed the Potomac, his route lay through Rockville, Brookville, Cookeville, Hood's Mill and Warfield to Westminster. On the way he captured a few wagon trains and their guards which served more to embarrass and delay him than to give him any substantial advantage. He skirmished at Rockville with Colonel Lowell's Second Massachusetts Cavalry, covering Washington, but none of these minor operations did any material injury to Meade's army or caused it the slightest delay, and but little anxiety.

Westminster was, however, the nearest railway terminus to his general line of march, and as it had direct railway connection with Baltimore and roundabout connection with Washington, it was of sufficient importance to cause Schenck to put it under the guardianship of the Delaware cavalry, and Meade to direct the Sixth Corps not only to march through it, but to take it under temporary charge.

As Buford's cavalry division was to cover Meade's advance, while Gregg's and Kilpatrick's were marching parallel with and covering his right or eastern flank, it is evident that Stuart's route lay through dangerous country, but there is nothing in his report to show that he had any adequate appreciation of the perils that beset him. From all accounts, especially his own, it is evident that the most he had in his mind was to pass through Westminster on his northward march to Hanover, York and Carlisle, and possibly to Harrisburg, in search of Lee's army, from which he had been separated for nearly a week. It is entirely clear that neither Stuart knew where Lee was, nor Lee where Stuart was. It is just as clear that both Meade's infantry and cavalry were between Lee and his cavalry, and that neither Lee nor Stuart knew the exact movements or plans of the other.

It was under these conditions that Stuart's advance, marching northward on the Washington-Westminster road reached the vicinity of Westminster, June 29th, between 4:00 and 5:00 P. M. Fortunately Major Knight with one troop and a

half or "ninety five men," as he states it, had reached the town from Baltimore on the 28th at 11:00 A. M., and after sending out scouts on all the roads without discovering any trace of the enemy, went into camp in the suburbs, on the road to Gettysburg about thirty miles away. That evening at 9:00 o'clock it was reported that the enemy had made his appearance at the outposts, but it turned out to be a false alarm. On the 29th, the pickets still reporting all quiet at the outposts, Knight gave orders to the squadron commander to have his barefooted horses reshod. Meanwhile he went himself, it is said, to the local tavern where he was refreshing himself, when at 3:30 a citizen came in and reported the enemy "as approaching in force on the Washington road," the pickets having been captured. This news came as a surprise, which it can be well understood, was followed by a few minutes of excitement, but not much uncertainty. The gallant Corbit, with the true instinct of a soldier, sounded "to horse," without a moment's delay, and followed this in turn by the formation of his little squadron, reduced by outposts "to about seventy" men, every one of whom promptly found his proper place in ranks. Taking the main street instantly in the direction of the alarm, Corbit passing the tavern en route, paused only long enough to report the presence of his command and to ask for orders. These came promptly enough from Major Knight, to move at once against the enemy, but for the reason that the Major himself had in the earlier days of the war been enrolled in the Confederate service, it is said he was afraid of being captured and thereupon failed to put in his appearance or to take the command that his rank and responsibility made obligatory upon him. Corbit, however, like the true soldier his ancestry and breeding made him, proved equal to the occasion. Taking the trot to the front, he and his gallant, but untried followers soon found themselves in sight of the hostile forces coming toward the town, and careless of whether it was a mere detachment or Stuart's whole division, of whose actual presence he was still entirely ignorant, he shouted "Draw sabres!" and dashing to the front, sounded the charge, throwing himself and his gallant followers furiously, head on against the astonished enemy.

The daring and the shock of this movement were not only surprising, but overwhelming to the enemy. It necessarily overthrew his head of column which it is said had already been massed at a turn of the road, and compelled it to recoil and to reform under cover of the oncoming reinforcements. Indeed there was nothing else for it to do, but old and experienced cavalymen, such as Stuart, Fitz Lee and Hampton, found this a simple operation requiring but a few minutes.

In the spirited *mêlée* which resulted, the enemy soon checked Corbit, and by a pistol shot killed his horse while it was throwing up its head under pressure of the rein and thus fortunately covering its rider behind. Corbit necessarily went down with his charger, and was captured pistol in hand, while, standing astride of his dead horse.

His men put up the best fight they could but were soon scattered and about half of them were taken prisoners. The same fate overtook Lieutenant Churchman and his men, who covered the rear, while the remnant of the fighting force, preceded by Major Knight withdrew by the Baltimore road to Reistertown. Churchman was also captured, but Knight and Lobdell continued their retreat after the pursuit had ceased. Knight was the first to reach Schenck's headquarters at Baltimore. He was also the first and only officer to make an official report, and this report dated June 30th, General Schenck forwarded at once to Washington, where it duly found its way into "The Official Records" as published by the War Department years afterwards.*

While this report mentions favorably Lieutenant D. W. C. Clark "with an advanced guard of twelve men" from Company "C," and Lieutenant Reedy and "some seven or eight men" of the same company, rather unfavorably, it leaves the details of the whole affair somewhat uncertain. It characterizes Captain Corbit's conduct as "gallant and masterly," and praises the men as "fighting all the time with the greatest bravery and determination—contending hotly for every inch of ground." It praised Lieutenant Churchman and his company as protecting and covering the retreat in "splendid style, losing all but seven of

*Official Records, Serial Number 44 p. 201, et seq.

his men and falling himself into the hands of the enemy." Finally it mentions a small detachment of the First Connecticut Cavalry which they came across at Reistertown. Ordering it to assist Lieutenant Reedy in rallying the men of his own command, Knight proceeded into Baltimore in pursuance of an order he claimed to have received on the way, from the Department Commander. He gives his "casualties and losses" in the fight and retreat as "Two commissioned officers—Captain Charles Corbit and Lieutenant Caleb Churchman; the former of whom fell while gallantly charging the enemy, and is now a prisoner in their hands, and the latter was captured while covering the retreat of the main body."

He also lost "One wagon laden with hospital stores, camp and garrison equipage" and "the regimental books and papers."

How many men escaped capture he fails to tell, but judging from the somewhat uncertain strength of his command it is likely that between fifty and sixty men escaped finally, while Corbit and the men taken with him, were irregularly paroled and released by Stuart in person, the next day near Hanover, after an informal conference in which he cordially commended their gallantry and told them "they ought to be fighting for the Confederacy rather than against it."

In closing this report Major Knight calls special "Attention to the bravery and intrepidity of the officers and men whose efficiency and determination of purpose has saved us from utter annihilation."

This constitutes the whole story so far as the Union records give it, but how much of this rests upon Major Knight's personal observations, and how much of it on that of others, remains in doubt, which cannot be fully determined at this late date. It is certain that neither Corbit nor Churchman, Lobdell nor Clark made any written report, and although several of them were, as already stated, paroled and released the next day, their personal experiences and observations in the action afterwards, rest almost entirely upon tradition, which further reference will be made in the conclusion of this paper.

V.

Fortunately Stuart, submitted to Lee's Adjutant General, August 20, 1863, a full report* of all the operations of his cavalry division from June 16th to July 24th, of that year, and while this report is somewhat vainglorious in tone, it gives many interesting details. Referring as he says, to his desire "To acquaint the Commanding General with the nature of the enemy's movements as well as to place with his column my cavalry force," he adds "the head of the column following a ridge road reached Westminster about 5:00 P. M. At this place, our advance was obstinately disputed for a short time by a squadron of the First Delaware Cavalry, but what were not killed were either captured or saved themselves by a precipitate flight. In this brief engagement two officers of the Fourth Virginia Cavalry, Lieutenant Pierce Gibson and John W. Murray, were killed. Gallant and meritorious, they were noble sacrifices to the cause. The ladies of the place begged to be allowed to superintend their interment, and in accordance with their wishes the bodies of these young heroes were left in their charge."

It should here be noted that the original of this report contained an endorsement made by General Lee, directing that the preceding sentence should be omitted if the report should be published. It then proceeds as follows:

"The fugitives were pursued a long distance on the Baltimore road and I afterwards heard, created a great panic in that city, impressing the authorities with the belief that we were just at their heels."

But at this place the report grows somewhat confused.

"Here (evidently meaning Westminster and not the end of the pursuit) for the first time since leaving Rector's cross-roads (in Virginia) we obtained a full supply of forage, but the delay and difficulty of gathering it, kept many of the men up all night. Several flags and one piece of artillery without a carriage were captured here. The latter was spiked and left behind. We encamped for the night a few miles beyond the town, Fitz Lee's brigade in advance, halting the

*Official Records, Serial Number 44, pp. 687-700.

head at Union Mills midway between Westminster and Littlestown on the Gettysburg road. It was ascertained here that night by scouts that the enemy's cavalry had reached Littlestown during the night and encamped."

As the fight at Westminster took place about 5:00 o'clock in the afternoon, and the command began gathering forage at that place where "many of the men were kept up all night," it is difficult to see how the command could have been united in camp at Union Mills, five or six miles beyond Winchester. The probability is that it encamped in various fields on the roadside and was more or less spread out between the two places, with its advanced guard at Union Mills and its rear guard at Westminster. It is evident at all events that it was not moving rapidly but just how long it was actually delayed by the fight at or in the vicinity of Westminster or by the necessity for foraging, is a matter of conjecture, but several of the officers and many of the Delaware cavalymen, claim that Stuart lost at Westminster or near it from ten to twelve hours, or to be more precise from five or six o'clock when they halted that afternoon, till four or five o'clock the next morning when they resumed the march. Of course this was in the night and half of it at least was necessary for rest and sleep for both men and horses, though if they had pushed on till even nine or ten o'clock, fifteen to twenty miles more might have been easily covered before they went into bivouac.

Both Union Mills and Littlestown are on the direct road from Westminster to Gettysburg, and as Littlestown was found already occupied by the Federal cavalry, Stuart early next morning, June 30th, resumed his march by a cross-road, leading northeastwardly to Hanover. Fitz Lee's brigade marched farther to the left by an intermediate road. Stuart's rear guard, which had bivouacked in the edge of Westminster, was driven out by Gregg's advance at daylight. At 10 A. M. Stuart's head of column reached Hanover but found the place as well as the east and west road, occupied by a column of Federal cavalry moving to the west. This was doubtless Kilpatrick's division. A sharp fight ensued in which Stuart claims to have gained the advantage at first—but admits that his attacking

brigade was repulsed "and closely followed by the enemy's fresh troops."*

As Gregg was in close pursuit through Westminster from the south, Stuart's position was clearly becoming one of increasing peril. Much heavy skirmishing took place, in which Colonel Paine, of the Fourth Virginia Cavalry, was captured by the Federals, and one of Kilpatrick's aids-de-camp was captured by the Confederates. But the significant fact is that Stuart lost another whole day in futile and inconclusive skirmishing, and found himself so pressed at night that he was compelled to turn again to the northeast through Jefferson to the neighborhood of York, about thirty miles east by north from Gettysburg. He admits that his prisoners and wagon trains together with a shortage of ammunition were now embarrassing him and supposing that Lee had already reached the Susquehanna, he contends that his eccentric movement, away from Lee's army rather than towards it, was the proper one for him to make. But the simple facts are again, that he did not know where Lee was, and that both Kilpatrick and Gregg now made it dangerous for him to take the direct road towards Lee's army.

A moment's inspection of a map of the theater of operations will show that the Federal cavalry held the shorter lines on Stuart, who, as has been seen, had been delayed materially by Captain Corbit's magnificent charge at Westminster, which in turn caused Stuart to reach Hanover too late to cross the road or to turn to the west on it towards Gettysburg, ahead of Kilpatrick's column marching from York to the west for the purpose of crossing Meade's front and taking his position on the left of Meade's army.

This was the fatal consequence of Lee's mistake in permitting Stuart's detachment to the south and eastward of Meade's army, and of Stuart's equally fatal mistake in permitting himself to be delayed in his march after once starting on it, first by Lowell at Rockville, second by Corbit at Westminster, third by the Union Pickets at Littlestown, fourth by Kilpatrick in front at Hanover and fifth by Gregg's pressing on his rear from Westminster. In other words he was wasting time in minor operations that could not possibly help Lee nor materially

*Official Records, Serial Number 44, Stuart's report, p. 695.

injure Meade, instead of pushing on night and day till he had found and formed a junction with Lee's army.

But this was not the worst of it, for after wasting an entire day with Kilpatrick at Hanover, he again turned to the right with Fitz Lee in front and Hampton covering his rear. Marching all night to the northeast through Jefferson to the suburbs of York, into which Fitz Lee's battery "tossed a few shells," he pushed on with his main body to the northwest reaching Dover on the morning of July 1st. Failing to find Early's command, which had already passed westward in the direction of Shippensburg, he halted at Dover a few hours to rest and feed, and then took the road again for Carlisle some fifteen miles further to the northwest and thirty-six from York. Here he learned that Ewell had also withdrawn towards Gettysburg, notwithstanding which he wasted the whole of July 1st in "demonstrations," "burning the cavalry barracks," and in making demands "for the surrender of the place." In his report he declared:

"The whereabouts of our army was still a mystery, but during the night I received a dispatch from General Lee, in answer to the one sent by Major Venable from Dover on Early's trail, that the army was at Gettysburg and had been engaged on this day, July 1st, with the enemy's advance."

Stuart was at this time some thirty-six miles nearly due north from Gettysburg with his command badly strung out but through no merit of his own there was nothing left to prevent him from concentrating it on Lee's rear or left which was closest to his main column. Starting in person that night he reported to Lee on July 2d, at exactly what hour does not appear, but he says it "was just in time to thwart a movement of the enemy's cavalry by way of Hunterstown" on the direct road from Gettysburg to York. At just what hour this was it is also hard to determine, but it must have been well on towards sundown as he made his headquarters that night on the York and Heidlersburg road, some five miles northeast of Gettysburg.

It is conceded by all Confederate writers that Stuart did not know where Lee was till some time during the night of

July 1st-2d, at which time he was nearly thirty miles north or northeast of the main body of Lee's army.

To anyone who follows this narrative with attention it will be evident that from the time Stuart left Hanover about twelve miles east of Gettysburg on the night of June 30th, his march carried him farther and farther away from his true destination, till he reached Carlisle on the morning of July 2d. In other words, his initial delay at Westminster was followed by further loss of time of at least thirty-six hours, at the end of which he was still thirty miles from Lee and this distance it took him at least twelve hours more to cover.

During this period it should be noted that the whole of Meade's cavalry rejoined him on or near the field of battle, and in close supporting distance, ready to perform the parts assigned to them and especially to meet Stuart whenever he should make his appearance. This is made perfectly clear by Stuart's formal report from which I have quoted whenever necessary to support this narrative. But it is fair to add that Stuart in its concluding passages strives hard to show that his operations were everywhere successful, that he was fully justified in all his movements, and that Early on leaving York, should have taken measures to acquaint him with his destination, thus saving him, "the long and tedious march to Carlisle and thence back to Gettysburg."*

It should also be stated that Colonel Mosby, in his spirited work on "Stuart's Cavalry in the Gettysburg Campaign," contends that Stuart made no mistakes. He scarcely mentions Westminster, except as one of Meade's important sub-bases of supply. He does not allude to the affair at that place, but in a private letter to the writer, dated May 12, 1913, he claims without going into details that Corbit's charge at Westminster "did not delay Stuart's column one minute," nor in any way change Stuart's plan of operations.

All this, however, is effectively controverted by the simple fact that at daylight of July 1st, Stuart crossed the road on which Early and his division twelve hours before had marched towards Gettysburg. It is evident that if Stuart had followed him instead of keeping on his way northward towards Carlisle

*Official Records, Serial Number 44, p. 708, et seq.

he could have easily rejoined Lee by 2:00 P. M., of that momentous day, and coming in upon the broken right flank of Meade's army he might "have assured a victory for Lee that evening."*

VI.

Having given all the light afforded by the Official Records on the effective charge of the Delaware Cavalry at Westminster and its probable consequences both direct and indirect, it is now in order to collate the newspaper references and traditions in regard to that affair and to point out so far as possible their relations to the established facts of the case.

It is settled beyond a doubt that Corbit acted mainly on his own responsibility with the greatest personal intrepidity, and that in the mêlée which followed the little band of less than one hundred officers and men who followed him, behaved with extraordinary spirit till overwhelmed and captured or driven from the field by the leading troops of Stuart's column. That this conclusion was inevitable when the relative numbers engaged are considered can be admitted without the slightest reflection on the officers or men of the Union side, and it is not strange that no one at the time foresaw the great consequences which might follow such an unexpected and relatively insignificant affair.

Adjutant William W. Lobdell, under date of June 27, 1913, in reply to a letter of inquiry from the writer, enclosed a clipping from *The New York Sun*, and also a letter dated August 14, 1912, from O. V. Anderson, formerly first sergeant of Company "K," Fourth Virginia Cavalry. The latter writes that he and several of his comrades had recently spent the night together discussing their former campaigns, and with the aid of several letters from former companions and from the clerk of the court at Westminster, agreed substantially as follows: Our advanced guard on the Baltimore pike "got to Westminster about 4 p. m.," and became engaged with your command at once. Our company led the charge into Westminster supported by the balance of the Fourth Virginia. A regiment was dismounted to the right of the road, and one to

*"Battle of Gettysburg," Jesse Bowman Young, Harper's, p. 134, et seq.

the left, but we had broken your command before "these dismounted men got into the engagement," which "took place (from) 5 to 6 p. m.," and "lasted only a few minutes but they were hot ones."

"Your command fought like Turks, killing a goodly number of our best men. (but strange to say) our company, which was in front lost none. Companies "C" and "D", which came to our relief, lost several good officers and some men. After the fight they halted to feed their horses and draw rations, and then started on a night march towards Carlisle."

Commenting on this letter, Captain Lobdell says:

"My recollection as to the time the fight occurred does not agree with Mr. Anderson's. (I should say) it occurred between one and two o'clock of the afternoon. The troops we engaged were the advance of Stuart's cavalry, who were charging down the main street of Westminster, which at that time was a continuation of the Baltimore pike. How many there were I have no means of knowing, but there were several platoons of them, who as our boys with Captain Corbit in command came charging down upon them turned tail and ran as fast as they could to the main body of the Confederate troops—coming up the Washington road, which was at right angles with the Baltimore pike. Our troop which (had been) sent out as a scout-party consisted of Company "C," under Captain Corbit, and part of Company "D," under Lieutenant Churchman. They were under (the battalion commander) Major Knight, but as he was taken sick at the hotel the day of the fight, the actual command devolved upon Corbit, who was then the ranking captain. I was just behind Captain Corbit when his horse—a fine black charger—was killed under him (by a shot through the head) undoubtedly saving his life as the shot would otherwise have hit him in the breast.

"Our boys were crowded out of the Washington pike by an overwhelming force, some escaping * * * and some being taken prisoners, among whom were Captain Corbit and Lieutenant Churchman.

"I was forced into a barnyard * * * at the intersection of the Baltimore and Washington pikes, and by running and jumping, my horse being part thoroughbred * * *

I escaped down the Baltimore pike and finally reached Reistertown from which station I was sent to Baltimore that night with a report of the engagement to General Schenck."

On the death of Captain Corbit, which occurred at his country place, "*Brookfield*," December 29, 1887, a local correspondent sent, December 31st, a letter to *The New York Sun* from which the following extracts are taken:

"The late Captain Charles Corbit was buried at Odessa this afternoon. He was the man who perhaps changed the results of the battle of Gettysburg by delaying General Jeb Stuart's cavalry twenty-four hours at Westminster, Maryland, thus preventing him getting to Lee in time to be of service."

The foregoing statement, it should be observed, is not directly supported by the official reports hitherto referred to, but it is a reasonable inference more or less certainly supported by the facts as related herein.

The letter continues:

"Charles Corbit in June, 1863, was only twenty-five years of age. He was captain of Company "C," which was (at first) employed to guard the telegraph line through this peninsula. Their duty was to keep open communications by wire between Fortress Monroe and the north and (as yet) they had never smelt gunpowder. On June 28th, Corbit's company and a part of Company "D" in charge of Lieutenant Caleb Churchman were ordered to Westminster about thirty miles southeast of Gettysburg, as an advanced guard of observation. There were ninety-five men and seven officers in the little party * * * commanded by Major Napoleon B. Knight. Small squads * * * were sent out to look for the enemy, who were then marching into Pennsylvania. They found nothing and Knight made himself at home at the Westminster Hotel, leaving Captain Corbit in command of the camp.

"The night of the 28th and the forenoon of the 29th were passed in quiet. In the afternoon at about 3:30 while about thirty of the horses were being shod at a smithy nearby, word came in that the rebels had appeared. Adjutant Lobdell, now vice-president of the Lobdell Car Wheel Company, * * * was at the hotel. At the first alarm he mounted and started

for the camp a quarter of a mile away. As he did so he met Corbit and sixty men coming down the road on a fast gallop.

"They stopped at the hotel for orders but Major Knight was too sick to issue any. The Delaware boys were on the Baltimore road, and along the Washington Road * * * at right angles and crossing it a depression in the ground, came Stuart's cavalry. As they rode down to the Baltimore road and turned north they saw the Delaware Cavalry dashing towards them down hill. Quickly turning their horses they retreated up the Washington road.

"As line after line turned in the road, on either side of which was a stout fence they became blocked. The rebel retreat was thus stopped and (at this instant) the sixty Delaware boys dashed with sabers drawn madly into the mass of men and horses. The rebels were cornered and decided to make fight, supposing the whole force of Union cavalry had attacked them.

"The Fourth Virginia Cavalry was ahead said to have been 250 strong, and they dashed towards the Delaware boys with a wild shout. Corbit, who was nearly six feet in height, rose in saddle with uplifted saber and yelled: 'Come on, boys, close up!' As he did so he reined his horse's head high in the air just in time for the animal to receive a ball between the eyes, intended for the master's breast. The charger sank down dead and before his men could close around him the rebels were upon him.

"Then followed a desperate hand to hand struggle with sabers and pistols. The rebel thousands came steadily over the hill and by sheer force of numbers pressed the handful of Delawareans back inch by inch. The road was about eighty feet wide and sixty Delawareans were jammed in.

"Stuart rapidly deployed his men around the town and unlimbered his artillery so as to command the scene of the contest. In a short time, however, the attacking party was surrounded and nearly all of them captured. A few got away * * * among them Adjutant Lobdell, who had been fighting behind Corbit. Sergeant Clark not only escaped but captured a fine black horse belonging to a rebel. His brother, Lieutenant Clark, escaped with a hole through his

hat and a saber wound in his arm. Those who got away met (that evening) at Reistertown, and when the roll was called on the morning of June 30th, twenty-eight men and four officers reported out of one hundred and two. Two had been killed, ten wounded and the rest taken prisoners.

"The Delaware men had no idea what they were doing when they made their wild dash. Stuart afterwards complimented them on their pluck * * *

"Captain Corbit was paroled at Hanover (the next day) but was afterwards ordered by the government to report for duty and served with the Sixth Corps in Grant's final campaign."

It is said, however, that he 'always felt he had broken his word of honor by returning to the field before his parole had been released' * * *

"One of the survivors" of the affair at Westminster, "was asked today if Corbit fought well? 'Did he fight, well?' was the reply. 'Why damn it, he was the fight!'"

Who was the author of this letter is not known, but it embodies practically all that has ever been claimed for Corbit and his followers, including the direct and roundabout delay which Stuart was then and later forced to make, in order to form a belated junction with Lee and his army.

Other newspapers took most favorable notice of Captain Corbit's gallant feat of arms at Westminster, and of the dismounted service of himself and men with the Sixth Corps, during Grants' campaigns of 1864 and 1865. In appreciation of this loyal service against his own sense of duty the Democratic Governor, Gove Saulsbury, of Delaware, offered him the commission of Lieutenant Colonel, but he declined the honor.

"Feeling that if he accepted the promotion it would be a tacit admission that he regarded the action of the government in ordering the disregard of his parole, as right and that his own views of the matter were wrong. It has been well said that it was this rare and delicate sense of honor which stood out most prominently in Corbit and endeared him to those who knew him intimately. It was this high quality that brought him the unquestioned respect of his neighbors and

comrades, and made him 'the ideal soldier' which by common consent, both loyal and disloyal men conceded him to have been."

Finally, it must be admitted by all conscientious investigators, that had it not been for the considerable delay which necessarily followed Captain Corbit's gallant fight at Westminster, whether that delay was two or twelve hours, Stuart could easily have reached Hanover less than thirty miles to the northward, before the Federal cavalry could have barred the road to the west from that point. This accomplished he could have passed on through Hunterstown, to a junction with Lee in a single day's march instead of taking three days, and thus giving effective support to Lee, as Buford, Kilpatrick and Gregg gave theirs to Meade, from the hour the first gun was fired at Gettysburg till the battle was ended.

The important factor of this campaign is that Stuart's detachment was an inexcusable mistake from the start, and grew from bad to worse till it ended in his defeat by Gregg, on Lee's extreme left July 3, 1863, simultaneously with Meade's defeat of Pickett's charge against his left-center at the "Bloody Angle."

The responsibility for this mistake must be evenly divided in history between Lee, the Confederate Generalissimo, and Stuart, his over-confident chief cavalry commander.

MAXIMS AND OPINIONS OF NAPOLEON ON THE USE OF CAVALRY.*

IN war, every cavalry general commanding a cavalry division, should every day and several times a day, depending upon circumstances, forward a report of the movements of the enemy and of the position of the division.

*Extract from the *Maxims and Opinions of Napoleon*. Compiled and classified by Lieut. Colonel Ernest Picard. Berger-Levrault, publishers. Translated from *The Revue de Cavalerie*, January, 1914, in the Department of Languages, Army Service Schools, by A. Moreno, First Lieut. 28th Infantry.

I do not believe, moreover, that it (the cavalry) is very useful. When one has so little of it, it serves no particular purpose.

Recommend equally, that regiments which are within reach of water, train their horses in crossing rivers; that all regiments of dragoons have dismounted drills, even though they have no guns, and that half a hundred muskets be distributed to them, for the purpose of starting their instruction.

He (General Sebastiani) should remind the Hussars that a French soldier should be a cavalryman, infantryman and artilleryman; that he is there for the purpose of doing anything.

I desire, Citizen Minister, that you consider the cuirassier, dragoons and hussars as forming three different arms, and that you never submit to me the names of officers from these troops, to be transferred from one arm to another.

I had forbidden any transfer from one corps to another. Nevertheless, I hear that transfers of men from cuirassiers to dragoons are being made. This seems to me to be bad and to have all sorts of inconveniences.

* * * These reconnaissances (of cavalry) will leave before daybreak; two regiments will be required to make two leagues, one of these two more leagues, another league by one escadron of this regiment, and another league by a detachment of the best mounted men from this escadron.

* * * It is necessary that a cavalry general always follow up the enemy vigorously, especially in retreats; * * * I do not wish that horses be spared, when they can carry men.

It is in the heavy cavalry, where should exist, to the highest degree, the science of the mounted man.

* * * The policing (provost work) of large towns is done by the cavalry; also the watching of the coasts.

The chausseurs should also know (as well as the dragoons), how to maneuver dismounted.

I regret to see that light cavalry and dragoons are being confused; there are two entirely different arms. A regiment

of dragoons, thus isolated, can do nothing; four or five regiments together, 2,000 strong, who can maneuver perfectly dismounted, will be very useful to you.

One cannot recommend too strongly, taking (to war) five year old horses.

It appears that what is to be feared most from the Prussians is their cavalry; but, with the infantry you have and holding yourself always in readiness to form squares, you have little to fear.

* * * It is right here that the cavalry is needed, in the midst of the immense plains of Poland.

I am within the boundaries of Poland, it is with cavalry that war is carried on in this country.

The lack of cavalry had prevented Marshal Bernadotte from taking advantage of his success.

Cuirassiers must be large; but height is of no importance for hussars and chausseurs; on the contrary, it is harmful. One result of having men of large stature, is the necessity of large horses, which doubles the expense and does not render the same service.

* * * Cuirassiers are more useful than any other cavalry.

Marches and battles destroy a great number of horses.

* * * In armies of observation (Lauriston in 1809), one can place a detachment of infantry with a large body of cavalry; but only on the supposition that the enemy is not carrying on regular operations, that one is trying to locate him and finally that this infantry can stop the enemy's cavalry, peasants or several companies of hostile chasseurs. As a general rule, in open country, the cavalry must be alone, because alone, unless it be a question of a bridge, defile or a given position, it will be able to withdraw before the hostile infantry can arrive.

It is necessary * * * that the light cavalry break itself of the habit of getting scattered in small bodies, but instead carry on effective reconnaissance in force; this is the means of preventing its being captured and of itself obtaining information.

The breast plate is a weapon; like the sword, it should never be captured except with the officer who wears it.

The number of horses killed in different battles is very large. Generally, in battles, I have constantly, for each cavalryman killed or wounded, lost three to four horses.

* * * In a regiment of cavalry, a man on foot does no good.

It is recognized that the cavalry armed with a cuirass can, with difficulty, make use of its carbine; but it is also very absurd that 3,000 or 4,000 such brave men, be surprised in their cantonments, or stopped on the march by two companies of light infantrymen. It is, then indispensable to arm them * * *. As to the lancers, see if it is possible to give them a carbine besides their lance; if this is not possible, one third, at least, of the company should be armed with carbines.

Under no consideration, shall cuirassiers be detailed as orderlies. This duty shall be done by lancers; even generals shall use lancers. The service of communication, escort, sharpshooters, shall be done by lancers. When cuirassiers charge infantry columns, the light horses should be placed in the rear or on the flanks, in order to pass through the intervals between the regiments and to fall upon the infantry when it is routed; or in case of a cavalry regiment, upon the cavalry, pursuing it vigorously.

* * * As a general principle, a colonel of chasseurs or of hussars who, instead of bivouacking at night, and keeping in constant communication with his grand guards, goes to sleep, deserves death.

It is well that Generals Sebastiani and Lafour-Maubourg receive, as often as possible, orders directly from you, without which the spirit of the cavalry would be lost. The infantry

generals have too often the habit of imposing on the cavalry and of sacrificing it to the infantry; therefore, I desire that you keep it under your command and that you give orders to it directly.

Two hundred or three hundred men of light cavalry must not take position like a body of infantry; their mission is to scout and not to fight * * * . It must be made known that there is penalty of death for the commanders of patrols of light cavalry who spend the night in a town.

General Lloyd asks what is the use of much cavalry. I ask, how is it possible to carry on anything but a defensive war, protecting one's self with intrenchments and natural obstacles, when one is not almost equal to the enemy in cavalry; lose one battle, and your army is lost.

Here the author will call to his aid the Romans and Greeks a false and deceiving reference. At first, Hannibal constantly defeated the Romans and was on the point of taking possession of Rome, solely by the superiority of his cavalry. Of all of Europe, Italy is the one place, specially beyond the Apennines, where the terrain is least suitable for cavalry. The Romans and Greek hardly ever marched except along the tops of mountains; they had no chariots, no artillery; they always concentrated in a small camp. An army of 25,000 men was enclosed in a 600 foot square. After six hours of work, it was there impregnable. There they awaited the moment of attack or of attacking, in a country little suitable for cavalry. Finally, the phalanx, bristling with points, had a certain resisting power against cavalry. Artillery and the rifle do not permit any longer the employment of the phalanx. In all modern wars, among the nations equal in tactics, instruction and courage, armies are always maintained with equal strength of cavalry. One sees that the author has only served in the Austrian army, which never knew how to use cavalry. At Marengo, they allowed their infantry to be routed by a charge of 10,000 horsemen and within artillery range of their cavalry line over 10,000 men strong. At Castiglioni, they allowed the crossing over the whole of this beautiful plain and their cavalry did not undertake anything. By reason

of being used so cautiously, it kept itself in good shape, after so many different movements, finally it was to be lost in Mantua.

Cavalry requires audacity, skill and above all not to be dominated by the spirit of preservation and greediness. What could be done with a great superiority of cavalry, well armed with muskets, and accompanied by light artillery, strong and well horsed is incalculable.

Of these three arms, cavalry, infantry and artillery, none is to be held in disdain. They are equally important. An army superior in cavalry will always have the advantage of screening well its movements, of keeping well informed of the movements of the enemy, and of involving itself, just so much, as it may wish to. Its defeats will be of little importance and its efforts decisive.

He (Lloyd) wishes that the cavalry have neither carbine nor musketoon; this is inadmissible. Six thousand cavalrymen could then be stopped, when passing through a defile, by 200 or 300 infantrymen. Infantry troops would be necessary for the protection of their bivouacs and cantonments. Finally, under adverse circumstances, in broken country, they would be unable to do anything towards protecting the retreat of an army or other convoy. They would be compelled to see several hundred vehicles and cannons captured, before their very eyes, by one or two battalions of sharpshooters, or they would see one or two battalions of sharpshooters arrive by a side road, take possession of a defile, through which the army is to pass, and which the cavalry as possessing greater mobility, had been sent ahead to secure.

The cavalry needs not only musketoons, but even cannon. The objection of cavalry officers is, that a carbine fatigues the horse, and still more the hussar or chasseur, whose horse is smaller; the cavalryman carries no knapsack; finally, even the horse will suffer; he will be much more tired in night bivouacs, because the cavalryman not having a fire arm, will not be able to do his duty except on horseback; and if he finds himself often in the presence of hostile hussars or chasseurs, or even of infantry sharpshooters, a large number of horses will be

killed. Summing up, at the end of a campaign, the loss that the horses of heavy cavalry will experience will be greater, if no carbine or musketoon is carried, than it will be due to the increment of arms and load that it gives to the cavalry.

Cavalry is useful before, during and after a battle. If you are in open country, the cavalry will push back the light artillery batteries, at first within cannon range of your flanks, will fall upon your baggage trains and parks, will fire upon and cut you up from the rear while the infantry will attack you and put you to flight; men, baggage, standards, everything will be lost. It is in this manner that it operated at Champaubert, Montmirail, Mangis Chateau, Thierry and Krasnoe.

Double rank formation: in a charge, the rear rank will charge like the first; four lines are useless; it is much better to have a single line which may be deployed to the right and left. The other system of the author (Lloyd) of charging in extended order is still worse. Order is the first principle of war, troops in extended order, should be picked troops.

The Emperor has found out while in Egypt that when there were over 100, a formation was necessary. The Mamelukes, the best cavalry in the world, were unable to withstand the charges.

"How shall one oppose," says the author, "this cloud of foragers." By four or five successive lines—which, maneuvering to the right and left, will increase immediately two or three times the front of the first line and following a charge. Without cavalry, how is one to carry on the campaign? How is one to escort this large quantity of baggage and of parks that the artillery requires?

At Tena, the French infantry won having only light cavalry; this victory had no results; but the cavalry reserves arrived, then the Prussians were no longer able to rally. Demoralized, they were driven back on all sides and pursued vigorously; of 200,000 men, not one recrossed the Oder. Without cavalry, battles are barren.

The light cavalry ought to reconnoiter far in front of the army; it ought to be supported and protected specially

by the cavalry of the line * * * . The light cavalry is necessary for the advance guard, rear guard and on the flanks of the army * * * . The cavalry needs more officers than the infantry. It should be better trained.

* * * Every light cavalry, every heavy cavalry, ought to be provided with a fire arm and know the school of the battalion and platoon. Three thousand light cavalry or 3,000 cuirassiers ought not to be stopped by 1,500 infantrymen posted in a wood, or in terrain impracticable for horses; 300 dragoons ought not to be stopped by 2,500 infantrymen.

The dragoons are necessary to support the light cavalry of the advance guard, rear guard and on the flanks of an army. The cuirassiers are less suited than the former for this kind of work on account of their cuirassiers, however, it is necessary to have them with the advance guard, but solely to accustom them to war and to keep them in trim.

A division of 1,600 dragoons, moving rapidly on a point, with 1,500 light cavalry, dismount to defend a bridge, the head of a defile, a height and await there the arrival of the infantry. Of what an advantage is not this arm during a retreat?

Cavalry charges are equally as good at the beginning, during, or at the end of a battle; they ought to be undertaken whenever they can be made against the flanks of infantry, specially when the latter is engaged in front.

They (the needs of war) demand four (kinds of cavalry) scouts, light, cavalry dragoons and cuirassiers. The cavalry, including scouts will bear a proportion to the infantry of one-fourth in Flanders or Germany; one-twentieth in the Pyrenees or Alps; one-sixth in Italy and Spain.

Cavalry has more need of formations and tactics than even infantry; it ought to know how to fight dismounted and be exercised in the school of the platoon and battalion.

If you attach a handful of scouts to each division, it is necessary that their number do not exceed one-twenty-fifth of the infantry, and that they be mounted on horses four feet, five or six inches tall, of which the cavalry cannot make use.

If the enemy's cavalry is to be feared, it is necessary to march in column, at platoon distance, so as to be able to form squares, by platoons, to the right and left while in battle.

It is for the cavalry to follow up the victory and prevent the beaten enemy from rallying.

The Germans do not know how to use their cavalry, they are afraid to compromise it, its value is overestimated; they husband it too much.

The cavalry of an army will bear a proportion to the infantry of six-twenty-fourths in Flanders or Germany; of five-twenty-fourths in Italy or Spain; of one-fifteenth in the Alps or Pyrenees and of one-twenty-fourth along the coast. In France, the cavalry will bear a proportion to the infantry of one-sixth.

Cavalry will perform its duties dismounted as well as mounted; to this end, it will be drilled in the school of the battalion and be armed with a gun or musketoon with a bayonet; no infantry will ever be assigned to support it, no matter what position it may occupy. Depending upon circumstances, it will station dismounted posts in woods, on heights, in marches and in houses * * *

The cavalryman will have two small provision bags to carry his rations during the marches of concentration; and a bag holding ten days oats for his horse, at the rate of four pounds per day; this bag will be divided into compartments, so that at a glance, the officer may assume himself that the cavalryman has taken care of his horse's feed.

The cuirassiers will specially be held in reserve, to support the light cavalry and dragoons. They will never be assigned to advance guards, rear guards or to the flanks, unless it shall be necessary to season them or to assist the dragoons.

That a division of 6,000 cavalrymen thus armed (lance, saber and a pair of pistols) be stopped by 100 voltigeurs occupy-

ing a house, village or ravine, is absurd; and who is to guard the cantonments, garrison towns and small places? Every cavalryman should have a musketoon or carbine.

Cavalry is useful before, during and specially after a battle, whether one be victorious or defeated. At Champaubert, Montmirail, Nangis and Krasnoe during 1812, the cavalry attacked by outflanking the infantry, passed to the rear of it and cut off its retreat, taking it in rear while * * * in front.

According to the Emperor, foreigners have never known how to get the best results from their cavalry, which is, nevertheless a very useful arm.

See what I might have done at Nangis or Vauchamps! At Lutzen, if the enemy had massed its infantry towards its left flank, and, while attacking, had struck our rear. What a confusion would have resulted?

CAVALRY AND HORSE ARTILLERY.

In weak cavalry brigades, too much artillery only hinders them.

Fools will tell you that the cavalry does no good in Calabria according to this statement, it does no good, anywhere. If Reynier had had 1,200 cavalrymen, and had properly used them, he would have done frightful damage to the English, specially if he had had some dragoons, who are armed with guns and fight dismounted * * * . You have five regiments of dragoons scattered about, you should assemble them and form a reserve, attaching to it four pieces of light artillery. These 4,000 men, capable of making thirty leagues in two days, can advance towards Naples or any other threatened point. What are you going to do with 300 detached dragoons, who will lose the esprit of their arm and will do you no good! * * * I repeat, assemble your dragoons, give them four or six pieces of light artillery with caissons and ammunition; consider them as infantry and organize them in such a manner as to move rapidly in any direction.

Prince d'Essling should leave some batteries with this cavalry; artillery is the complement of cavalry.

Horse artillery is the complement of the cavalry arm. Twenty thousand cavalymen and 120 guns of light artillery are equivalent to 60,000 infantrymen and 120 cannon.

Gassendi does not like horse artillery, specially ours, in which our cannoneers are mounted. Well! that alone has changed the phase of war. That is to say, to use artillery so as to always follow cavalry, is a great change. One can now, with cavalry and horse batteries attack the rear of an enemy's army. After all, what is the expense of raising some regiments of horse artillery, compared with the advantages derived from this arm?

LIGHT CAVALRY.

1. Light horsemen will form part of the light cavalry of the army. They will be armed with a musketoon and bayonet weighing less than six pounds, a saber, model chasseurs of the Guard, weighing less than three pounds, two pistols weighing each less than one pound and attached to the saddle by straps. One-half of the men of the escadron will be armed besides with a lance; all will have no other defensive weapon than a shoulder protection of chain mail and an iron cross on the shakos.

2. They will be trained to cross a river swimming alongside of their horses, holding to their manes and keeping the musketoon out of water. The horses will be saddled as simply as possible; they should be able to drink bridled and will be trained to drink but once a day. The man's clothing and equipment will be simple, loose and comfortable; officers, non-commissioned officers and privates will always sleep in their clothes, in peace as in war time.

3. In the field, escadrons of light cavalry will never spend a night in a town, village or farm; they will always bivouac on the picket line and will spend the night saddled and bridled at the bivouac that they will have taken after night fall (to this end, changing from the one occupied before sunset), and which be reconnoitered as much as possible during

the day time. The horses will only be fed by thirds and upon returning from morning reconnaissances. Any officer of light troops, who shall be surprised by the enemy on account of having spent the night in a town, village, castle or farm, or on account of having remained at night in the bivouac that he occupied before sunset, will be liable to trial by court martial.

CAVALRY COMBAT STUDIES.*

BY CAPTAIN D'AUBERT, FRENCH ARMY.

"The attack is all in the wish of the commander and the initiative of his subordinates."—General TREMEAU.

GENERAL CONSIDERATIONS.

1. *Will there be a cavalry combat?*

To put the question will show an absolute disregard of the conditions of war.

There will be cavalry encounters as there will be encounters of armies, because war is made to defeat the adversary and not to evade him.

Certain ones have been, at one time, the too exclusive knights of the cavalry tournament, outside of which the arm had nothing to tempt them.

Then came others who claimed the superiority of the troopers armed with the carbine over the trooper armed with the saber, and who praised dismounted action against mounted action.

Finally under a pretext of working in junction, they are about to prescribe even the principle of the encounter of arm to arm.

Where is the truth? It is everywhere.

*Translated for the War College Division, General Staff by Lieutenant William H. Harrison, Jr., 12th Cavalry, from the *Revue de Cavalerie* of October, 1913.

In principle, it is by the unison of action, by the combination of efforts of all the arms on the field of battle that the real useful work will be produced; that will be where success will come from. That which is important: is to be victorious in the battle with all the arms and not to obtain ephemeral successes in partial engagements, like those of the cavalry.

The cavalry should reserve itself for the battle; and it should not risk its existence before the battle except to assure the execution of its missions, or to take advantage of the occasions which it should always grasp.

Because one does not go to battle without maneuvering. The same maneuver is intended to prepare the battle by allowing the adversary to be attacked from strong to weak; and one maneuvers in articulating—that which can bring partial engagements (encounters), in giving to the arm of maneuver, which is the cavalry, special missions.

Thus, in order to prepare the battle, the cavalry will have to play its part in the strategical maneuver—exploration (scouting), delaying action and as nothing is obtained without risk, it will often be obliged to give battle to the opposing arm although not having desired it.

Will it give battle mounted or dismounted or combine both modes of action?

All depends upon circumstances; the mission, forces in sight, the ground.

One must not be an absolute partisan of either method of attack, but be ready to use either according to circumstances.

Generally the cavalry will obtain its most rapid, brilliant, and decisive successes mounted. But there are some cases where a too unequal struggle is to be avoided or when a weak force of cavalry, by using the terrain, will be able to hold in check a very much larger force of the enemy.

When a body of cavalry has reason to believe itself stronger than the other, it is perfectly well inspired to attempt to obtain as quickly as possible, the moral radiancy of triumph which will shine on its lances during all the campaign.

In the contrary case, it will be a more profitable tactics (for our cavalry) to place itself on guard against its rival and with the aid of our light infantry, which is so quick, of our

bicycle units so skillful and keen in maneuvers, to prepare counter attacks against the enemy where the heart and the esprit will replace the insufficiency of numbers.

Finally, in the battle itself, to reinforce the wings of the line, in the character of a guard or an attacking force, in the center as an attacking force or a counter attack, the cavalry should be in hand when arriving—combination with the other branches, but cavalry combats just the same.

Should the cavalry then avoid or look for the opposing (rival) arm?

The question has no longer a position to obtain.

Except in the battle of armies, where one endeavors to cause the material destruction of the opposing forces, one does not fight just to fight, but to fulfill (carry out) a mission.

Cavalry will therefore have a fight, alone or in combination, with the adversary's cavalry, in order to carry out its missions, notwithstanding the intervention of the enemy, or in order to take advantage of the fight. It will fight mounted or dismounted, following which ever method of attack will allow them to discount the greatest success.

Our regulations has, consequently reason to assert: In its operations, the cavalry will be found the more often in front of that of the enemy; it must first overthrow it, if this cavalry form an obstacle in the execution of its missions.

And besides: The mounted attack with side arms, which alone gives decisive results, is the principal method for cavalry fighting.

In the main, the fight of cavalry is a means and not an object.

In war we will not have time to deal in preparatory encounters, before the decisive engagements; therefore, it is necessary that we should know in advance how to conduct this delicate, transient, causing vertigo action, which the cavalry combat is action in which success will depend upon the clearness of the attack order and the rapidity of its execution.

Consequently the combat organization on the one hand; the action of the players on the other hand; are two principal elements of success, which it may be important to describe.

But there are many other points that it is necessary to examine in order to come to an opinion, in order not to find one's self incessantly, either in study or on the terrain, faced by new questions which cannot be solved by inspiration, if one has not thought them out previously.

Should you always attack in order to have the moral benefit of the offensive? Or should you allow yourself to be attacked in order to have the advantage of the ground?

Will you fight mounted or dismounted?

Will you attack the enemy as a large troop or with combat patrols (groups)?

Should the advance guard attack, wait or retreat?

Should the artillery be divided or should it act as a whole?

Should it be left with the main body or pushed on to the advance guard?

Should it approach the enemy from the front or maneuver on its flanks?

Is it expedient or injurious to save some troops?

Should one save his power in order to have the last reserve, or else risk all to accomplish all?

Will a good echeloning be successful?

Will there be an attack? Will there be a *mêlée*?

Should the units of an attacking force remain consolidated, and attack even if they have no particular objective? Or should they wait for an opportunity when they find nothing opposite them?

Can the decision come from the *mêlée* or must that be avoided if possible?

So many controverted questions, settled affirmatively in the most contrary meanings.

Then, equally, one can say that truth is everywhere; and that the errors of people obviously sincere, comes solely from this: that they have constructed a doctrine on a single particular case, from this that they have generalized an experience too localized and it is still to history that one must look for advice.

2d. The Charge.

The cavalry fight—properly speaking—is given over to charges, that is to say, mounted attacks.

Mounted attack comprises:

1. The charge itself.
2. Contact with the enemy.
3. The *mêlée*.
4. The retreat or pursuit.

It was, at one time, presentable to pretend that a charge well launched would find nothing in front of it—the adversary riding in the opposite direction before the contact—and it was only necessary to pursue.

History contradicts this exclusive affirmation; there are cases where the enemy did not wait for the shock, but cases of contact and of the *mêlée* are the most numerous.

In antiquity, Issus and Arbelles, victories of Alexander, are of large cavalry *mêlées*.

In the Middle Ages, Cocherel and Auray, in which Du Guesclin took part, are equally of *mêlées*.

In the 17th Century there is that of Rocroi, Malplaquet and many other encounters which are of the same kind.

Under the Empire the charges of Austerlitz, Hof, Moskowa, Waterloo, etc., being *mêlées*.

In the war of 1870 there was only one encounter of the cavalry, at Ville-sur-Yron, which became an immense *mêlée*.

The recent wars: Transvaal, Manchuria, Balkans, do not furnish us examples of this method of combat.

DeBrack shows us that the *mêlée* is a standard by indicating to us the conditions of successful charges:

1. To surprise the enemy.
2. To take him from the strong to the weak (in respect to numbers), when he has lost confidence or begun wrong movement.
3. To meet him with the troopers more united (cohesion) and the horses fresher than theirs (speed).

And he says elsewhere:

“When a charge is well begun, push it to the end and holding well you will succeed. In everything there is a growth, zenith, and diminution. A charge at its minute of start, its minute of *mêlée*, then that of hesitation and that of retreat.

Be firm during the second and third minute and victory is yours."

The *mêlée* is then one of the normal phases of cavalry combat, that cannot be disputed; and consequently there will very often be contact with the enemy.

Will the contact be a shock or a penetration of two adverse troops?

Certain ones have equally claimed that the material shock cannot be produced by the collision of two troops.

Ardant du Picq tells us himself:

"One always weakens before the shock, turns his back or else stops and then you have the *mêlée*."

However, the case can equally be produced where two troops in place of having an equal apprehension of the contact, rush to it with the same ardor and in this case there will be shock, that is to say material collision. We have often seen in the exercises in times of peace, whole platoons carried away by their ardor, who did not halt in time, they collided, clashed and overthrew each other.

The shock is then possible. That which will render it rare is that more often the troops who are to run against each other have broken the alignment at the command "charge," each trooper using at this moment all the speed of his horse. Then there is penetration of the adversary's lines and no shock.

But the shock will be produced between certain fractions, in particular conditions, if the circumstances have caused them to commence the charge at a sufficiently short distance from each other in order that the speed of the different mounts will not break the alignment.

In conclusion, these points seem definitely acquired.

The mounted attack will comprise:

1. The charge itself;
2. The contact: penetration, shock, half-turn (moral shock.)
3. The *mêlée* "if the adversary has not refused it."
4. The retreat or the pursuit, according to the chance of the fight.

But, as soon as the first encounter of the cavalry has been produced, in which each one of the adversaries, sure of his

strength which is to break that of the enemy's, by a direct attack one of the two wins, hoping to take his revenge in deceiving the adversary, by using not only strength, but also some strategem, by looking for the weak point of his rival, by striking the flank and the rear.

Thus, one can say that if the war, blow of strength, is as old as the world, one must add that the maneuver, blow of strategem, has only been a few days at the least.

War will no longer be made without maneuver, which is called according to the case, evolution or maneuver properly spoken, but of which the certain end is to take the adversary at his weak point.

3d. *The Evolution of the idea of Attack. (Rules since 1870).*

Tactics, according as it is inspired by theory or by experience, looks more or less for success in the evolution or maneuver and demand mechanical processes or a quick organism from it.

It is thus that there has been found two schools in the cavalry for a long time in competition. The one, the first is the Frederick school, officially abandoned today in Germany as in France. Its principles were:

1. Action in mass of a first line supported on its flanks by a second line less strong; both supported by a reserve;
2. Deployment preconceived;
3. Simultaneousness.

The second may be called the Napoleon school, as it puts to advantage the experience of the imperial epoc.

Its dogmas are the German Regulations of 1909 and the French of 1912; its principles are:

1. The maneuver.
2. Engagement by groups; according to the circumstances, each group using the echelon formation.
3. The economy of forces, based upon the fractions of the adversary by the strictly necessary numbers, in order to obtain superiority in the principal attack.

A rapid examination of the regulations that have come out since 1870, will show the evolution which was made in the ideas of combat and will make us understand how we have left the line

tactics (*Limentaktik*, the Germans say), in order to come to group tactics (*Treffentaktik*).

Regulations of 1876: The Austrian regulation of 1870, was the first to inspire the methods employed during the wars of the Revolution and of the Empire, in which, by a supple adaptation of the means in view, the organic life replaced mechanical movements in the unit.

Following the Austrian Regulations, are regulations of 1876 enter into the same idea.

The principles stated in it are the following:

1. The employment commands the school; every exercise must constitute a preparation for war.

2. There is no invariable rule for order of battle.

3. The subordinate unit "brigade in the division, regiments in the brigade, squadron in the regiment" have a large independence, each regulates itself upon the chief who is its guide and maneuvers freely in order to cooperate in the general action.

This suppleness, this liberty in the maneuver, appalls the formalists and * * *

The regulations of 1882 imposed Frederick's idea of the tactics of three lines:

The first (*Cuirassiers*) of the direct attack.

The second (*dragoons*) to maneuver on the wings.

The third (*light*) constituting the reserve.

All the tactics is summed up in the heavy blow.

Action making the essential properties of the branch call elsewhere:

Surprise and sturdiness.

But unique action presenting a grave danger;

To leave a gap in the line as a lure.

The regulations of 1899 allows the performers an absolute freedom of maneuver; "The chiefs of every grade must find in themselves the means of obtaining the success."

That may be the origin of an order of expansion of the tactical operations.

But one hardly profits by the latitude of the regulations; one applies it unconsciously no doubt, toward restraint.

Echeloning, which was indicated as a means of evolution, becomes a regular and at times rigid procedure of maneuver; one echelon in the march to the combat position.

One echelon in the attack; and the placing of the units, in a geometrical order, the ones in reference to the orders, replaces every idea of maneuvers.

Automatically, the evolution of terrain, exercises, revives the mechanical movements.

In 1906, General Lacroix just returned from a mission to Berlin, having been struck by the force of the attack of the German cavalry (which was then the attack in three lines) advised that this tactics be taken again by a supple maneuver; in causing the adversary to lose his way and breaking his cohesion by means of unforeseen movements, in attracting one side in order to attack another. In the main: to oppose the maneuver of the direct attack by striking the flanks, a weak point in the German arrangement.

The ministerial circular of August 9, 1908 adopted these conclusions:

1. Preparatory maneuver of a part of the forces;
2. Successive engagements, and well connected distinct groups, concentrating their efforts on a sensible point in the adverse arrangement.
3. Constitution of a reserve strong enough to allow the chief to intervene in a decisive manner in the continuance of the struggle.

We have found the parade of their attack; the Germans are perfecting their fencing.

Their regulation of 1909 replaces the brutal offensive by the maneuver, the attack of three successive lines axled on a single direction by the attack of mobile parallel columns,—combat groups easier to throw upon the objective.

In place of the attack at close quarters, the echeloning is done in depth and it is attempted to keep the advantage of throwing into the combat at the last a reserve which may give success.

The project of the 1911 Regulations wishes to reply to this tactics by concentric attacks of combat groups. Its principles are:

1. To attack from strong to weak; to choose, consequently the point of attack;
2. There to apply a superiority of power, by the concentration of several combat groups;
3. To gain time everywhere besides evading the decision by the fire or refused echelons;
4. Articulation of combat groups (brigades or regiments) in line of attack and echelons, echeloning from these groups at a distance from the support; the adoption of an interval of maneuver greater than the interval of deployment, in order to work by convergence.

These enlarged intervals make the object of the weaver critics in the military middle course where they reproached them to isolate the groups, to allow the adversary to work against a part of the forces with all his means, before the intervention of the other part.

And they renounced the maneuver by convergence, as they considered it dangerous.

The provisional Regulations of 1912 sanctions the articulation of the attack in combat groups. The great lines of its doctrine are the following:

(a) Object of attack:

1. Rupture of the opposing arrangement of troops;
2. Initiative of attack;
3. To the shortest attack (blow of strength) or maneuver in order to reach the weakest point (blow of stratagem.)

(b) Organization of the attack:

1. In general; the principal attack and the subordinate attack;
2. Organization into combat groups (brigades of regiments, artillery, auxiliary arms;)
3. Success of the main attack; connection, solidity, reciprocal support of the groups.

(c) Execution:

1. The combat groups are articulated in echelons; they furnish a line of attack, keep in one or two echelons of support, only deploying what is necessary;

2. Reserve, to produce a decision;
3. Auxiliary arms, allowing the saving of the forces; prepare, sustain, gather.

In the main, a principal attack and some subordinate attacks; tie, solidity, sustained reciprocally by the combat groups for the success of the principal attack.

The regulations of 1912 allow the impulse of the command and reflex action by the players, thanks to the articulation and the echeloning.

By way of retaliation, it wished to solidify the formations by diminishing the intervals and the distance of the guide of the troop and by creating the "bending" of the deployed regiment. The "bending" of the front unquestionably facilitates the conduct of the troop and allows the attack to be well adjusted; but the diminishing of the guide has greatly lessened the influence, prestige and "command" of the chief.

And the two cavalry rivals are today pretty near the same point:

Maneuver against maneuver;

Groups against groups.

The advantage will rest with the most rapid, the most keen, to that one perhaps which delays the shortest in throwing all its forces into the action.

The reserve, to long reserved, one must not make the mistake there, it is the temporization, then that the combat of cavalry is, by essence, brutal and short.

If our adversaries have the tendency to guard the last reserve, our rule prescribes to "throw all the forces into the balance when the occasion presents itself."

It seems that it is there that the real formula of success in the cavalry combat lies.

As one sees, the rules of combat vary incessantly, every foreseen attack in order to profit by the fault in the arrangement of the adverse regulation, bring about a ripost, under the form of a new regulation.

On the whole, the struggle between the two cavalries is engaged permanently. And, Mr. André' Cheradame tells us: "In reality the battles are won from times of peace, that is to say

that the victory is only a confirmation of the superiority acquired during peace."

One cannot immobilize then in one system; as perfect as it may be, it goes wrong. It has besides so much less value that it knows fewer methods of action and that it is better known by the adversary.

Tactics do not allow a unique procedure without which, employed by both parties, it gives the victory simultaneously. To such a manner of execution, declared in a moment, given the best, because it answers best to the tactical processes of the rival, that one will attempt to oppose a new blow for which a new parade will equally be found and thus one after another.

It is fencing, and it will be simple for one to imagine that the thrust will at last be found irresistible.

All the proceedings, since those of Frederick and Napoleon until those of Frederick-Charles or of Geslin of Bourgogne are to be kept in the arms arsenal which they wish to use. But it is necessary that the chief have a clear enough mind to judge the situation, quick to choose among his forces those whose employment fits the occasion.

If the enemy on one side places reliance upon a maneuver by combat groups, we will overthrow his disposition and his combinations by surprising him by an attack of three lines according to Frederick. If, on the contrary, he advances upon us in mass, we will fool him by a brisk faint attack and will throw upon his flanks a supple and rapid attack by groups.

Conditions of modern war admit a permanent tactical evolution and necessitate the incessant execution of new regulations. It is necessary, said Napoleon, "To change tactics every ten years"—But it is not necessary to forget the old method and to so allowable to have recourse to them when occasion requires.

A tactician always has several tricks in his "cartridge box;" he thus retain the surprise which is the best weapon.

4. *Echelons in combat groups.*

The power of the German attack in three lines upon which, in 1906, General Lacroix drew our attention, did not escape General de Bourgogne who, ten years earlier, had already

looked for a method of opposing the maneuver of the straight lunge.

Mislead, feint and attack in an unlooked for direction.

The maneuver implies the necessity of arriving on the flank of the adversary: it can not demand these oblique movements either in line—with which one does not maneuver, or in column, which takes too much time for deployment; the means will be found in echeloning that is to say a supple disposition presenting at one time that advantage of both the line and the column, allowing quick movements and rapid deployments in every sense.

To speak truly, echeloning was not a new idea; De Brock recommends it and Frederick's troops like those of Napoleon employed it; but the extension, the spread which General Geslin de Burgogne gave it in making a really new doctrine which contained the base of the French regulations of 1899 and of 1912, and of the German regulations of 1909.

As we have just said, in the orders of Frederick's time one finds the idea of echeloning. The second and third lines must extend beyond the preceding line to which they are acting as support.

And in 1840, in Russia, General de Bostell, ordered to draw up a new regulation, already written; * * * . " * * A formation in depth of several echeloned lines, combined with the columns of attack of the wings will present great advantages, as much as to guard the flanks as to take a rapid offensive."

But the Austrian regulations of 1863 is the first it seems, to pass from the waiting echeloning to the offensive encheloning, and we find there the disposition of attack by brigade shown by the figure and the following description:



"A regiment deployed, a regiment echeloning its squadrons on a flank; the first echelons are advanced on the exterior wing, the last are supporting the deployed line."

Nevertheless, the echeloning, is still a mechanism; (figure) it supports a line; it has not the independence which will allow it to use the properties of maneuvering from its disposition.

THE PROMOTER OF THE ECHELONED MANEUVER (L'IRREGULIER.)

Investigated in 1894. The Echeloning.

1. "The Efficient support of the lines, one by the other;
2. "Solidity" which intimately unites in the struggle;
3. "The possibility of the maneuver" forced consequence of the preparatory disposition of the adopted combat and of the movements of the enemy."

General Geslin de Bourgogne not only foresaw the rôle of the echelons, but he organized the action into combat groups.

In his study on echelons, he gave to the units, brigade or regiments, missions, and these elements to maneuver arranged themselves in echelons. It is, properly speaking, the actual maneuver by "combat groups," but in 1894, the word was not pronounced and the regulation of 1899 adopted purely and simply "echelons."

Unfortunately this arm of maneuver, of life, is soon bent; it is employed wrongly and irregularly and from narrow prescriptions, destined to obtain the correct maneuver on the drill ground, completely misrepresents it. One distinguishes the echelon of evolution from the echelon of attack, etc., * * * and they drill in echelons at fixed distances and intervals * * *. The routine of the exercises brushes it back again to the mechanical.

At the maneuvers, another spectacle, the forces held in leash during the year escape in all directions; the dispositions to which the chiefs had wished to give a rigid brace, broke, by the reaction against unsupportable suppression. And it was the unbridling of the initiative, the untimely actions, the dispersion of efforts, the pulverization of the mass and of the force.

The echeloning replaced the order of maneuver, the disposition took the place of the combat mission. And, finally, with the echelons of brigades, in the division, and half regiments in the squadrons in the brigade, they arrived at a crumbling, at a total dispersion, at a volatilization of the power.

It becomes necessary to reorganize this disorder material and moral—to agglomerate the dust, to give a unity to the different actions, a framework to the fractions charged with the attack, some means to make play well tempered but limited in numbers—means placed at the hands of the chief who can with one gesture unbend them, in the sense of the object.

These are the combat groups of our actual regulations.

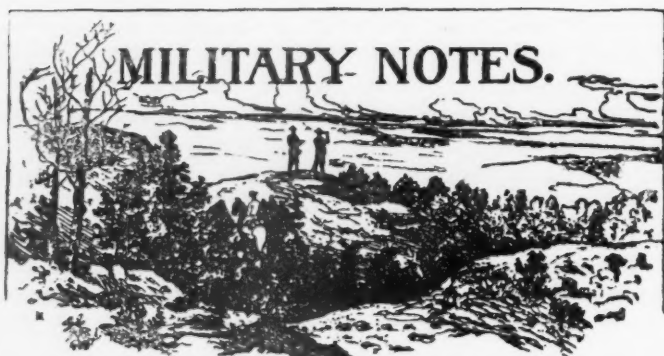
The combat groups of the division will more often be: Brigades (sometimes regiments); Artillery; Bicycle infantry; Reserve; four or five elements, six at the most, to which the chief will have to give missions, from which he must coördinate his actions and who will carry out his orders directly, rapidly and with precision.

The echelon does not become any the less the element of maneuver of the groups.

But the points of attack of the groups have become the poles of attraction of echelons of obligatory connection. And the unconnected of the actions forms a place in the execution of each combat mission, by a coördination of efforts.

"Every tactics," says Colonel de Gondrecourt, "must be able to depend as much upon the precision of the mechanism as upon the life of the organism."

This double condition is realized by the combat group, which has a true life and which having, thanks to the echeloning, a framework solid and supple, constitutes in some way, an organized mechanism.



THE FORCED MARCH.*

1. Occasions: Pursuit of the enemy's detachments; Necessity for quick concentration; Raiding in the enemy's country; Escort duty; Officers' test rides.

2. Favorable conditions: Cool, dry weather; good dirt roads; level country; frequent watering places; bright moonlight (in night marching).

3. Horses on forced marches will be favored by limited watering on the road; by thorough rest at night; thorough rubbing down and grooming; good shelter; also by light loads.

4. Unfavorable conditions: Rough or heavy roads or trails; poor condition of horses; heavy loads; hot humid weather.

5. The gaits of a rapid forced march should be the walk and trot. The gallop is too exhausting and should never be used.

*Extract from General Orders, No. 8, Headquarters First Cavalry Brigade, Fort Sam Houston, Texas, March 10, 1914, Brigadier General James Parker Commanding.

6. Long closed-up columns are unfavorable for the maintenance of a uniform rapid gait on the road. Inequalities in the road and the necessity for closing up will cause the horses in rear to move irregularly.

7. To secure uniformity in the walk and trot each troop of cavalry should be divided into detachments, each having a depth in column of not more than twelve troopers, and led by an officer or non-commissioned officer whose duty it is to maintain a uniform gait, keeping at a distance of not more than ten yards from the rear of the detachment in front. The leader should regulate the gait as far as practicable by that of the leader of the detachment which precedes him.

8. For freedom of movement the troopers should ride ordinarily in column of twos. When the road is hard in the center and soft on the sides it is often desirable that the column of twos should open up, thus moving in two columns of files, each riding on one side of the road. The columns should move alternately five minutes at the trot and five minutes at the walk, dismounting and leading during the last five minutes of the half hour, and dismounting and resting during the last five minutes of the hour.

9. During this halt the saddles should be adjusted and the horses feet looked after.

10. It is sometimes of advantage to halt for half an hour when the day's march is half completed, allowing the horses to drink sparingly and feeding them a few pounds of oats. During this period the saddles should be taken off and the backs and legs rubbed.

11. Moving in the above manner the march is made at an average rate of 5.7 miles per hour, and a distance of fifty miles may be completed in nine hours. It is thus possible to complete 100 miles in 24 hours, with an interval for resting the horses of six hours.

12. Since the horses obtain better rest and sleep during the night, the most favorable conditions for a forced march of twenty-four hours, are to start in the afternoon, making fifty miles, rest six hours, start at daybreak and make the remaining fifty miles.

13. It is not desirable to start before daybreak, as the best rest of the horse is obtained just before dawn.

14. Thus the following schedule is suggested:

To ride 100 miles in twenty-four hours: Ride from 2:00 P. M. to 11:00 P. M.; rest six hours; ride from 5:00 A. M. till 2:00 P. M.

To ride 150 miles in forty-eight-hours: Ride from 2:00 P. M. to 11:00 P. M.; rest eight hours; ride from 7:00 A. M. till 4:00 P. M.; rest thirteen hours; ride from 5:00 A. M. till 2:00 P. M.

To ride 200 miles in seventy-two hours: Ride from 2:00 to 11:00 P. M.; rest eight hours; ride from 7:00 A. M. to 4:00 P. M.; rest fifteen hours; Ride from 7:00 A. M. till 4:00 P. M.; rest eleven hours; Ride from 5:00 A. M. till 2:00 P. M.

15. When, as often occurs in a campaign, horses are heavily loaded, and roads and trail are poor, the troopers should be required to dismount and lead at more frequent intervals. By alternating the walk and trot, the troopers leading while at the walk, a gait of four or five miles an hour can be maintained without unduly exhausting the horses.

16. To dismount and lead is often a relief to the men, and at the same time rests the horses. The men should be required to walk when leading at least three and one-half miles per hour.

17. By experience it has been found that at the end of five minutes trot, the horse is beginning to blow; at the end of five minutes leading at a fast walk the trooper finds it a relief to mount and the horse has become rested.

18. In rapid forced marches of squadrons over rolling country, the length of the column is such that if the whole column should trot at the same time, part would be trotting on level and therefore favorable ground, while other parts might be trotting on slopes, or unfavorable ground. To enable each portion of the command to trot when the ground is favorable, and walk when the ground is unfavorable, the troops should follow each other at a varying distance, the maximum being about 100 yards. The Major having notified each troop commander of his intention to move at a forced march gait, each troop then regulates its own gait, taking advantage of the most

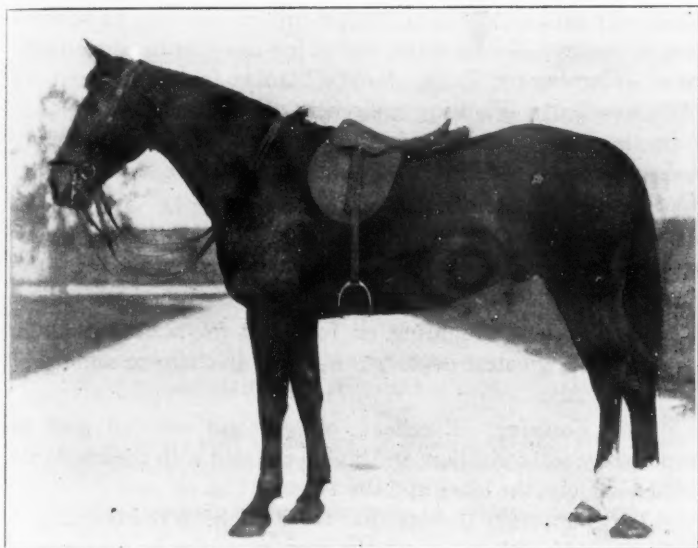
favorable ground, maintaining a distance from the troop in front of not more than 100 yards. No signals for the change of gait should be sounded.

19. Similarly, when a regiment is making a forced march, each squadron should maintain a distance from the preceding squadron of not more than 300 yards. To keep in touch, connecting files should be used.

20. Forced marches for long distances will be made only in emergencies.

21. The methods of the forced march, however, should be constantly practiced.

AN OFFICER'S CHARGER.



MINDORO.

Owned by Colonel JOSEPH A. GASTON, Sixth Cavalry.

Foaled 1907 in Virginia. Dam a three quarter thoroughbred. Sire a Franch Coach. Height 15-2; girth 72 inches; circumference of canon bone eight inches; weight 1,100 pounds.

CAVALRY MANEUVERS IN FRANCE.*

September 2-10, 1913.

(a) *Mounts:* Excellent, light, active horses, Anglo-Arab race, extensively raised and utilized in France for cavalry purposes; a general type that United States should seek to obtain for its cavalry horses. Anglo-Norman race generally heavier than required for American cavalry, but excellent for artillery. Practically all military horses possess at least fifty per cent. thoroughbred blood.

(b) *Equipment:* Officers', excellent, except revolver which is too small; saddle as nearly perfect as possible it seems Enlisted men's saddle poor; halter bridle excellent, as good as can be made. No revolver, except few non-commissioned officers'. Carbine too short. Saddle blanket folded in about six folds, excellent. Fighting equipment, of which saber and lance form the important parts, considered far inferior in destroying an enemy to large caliber pistol and good carbine of the United States.

(c) *Organization:* Double rank formation of cavalry considered inferior to single rank formation employed in the United States.

(d) *Tactics:* Fighting on foot and fire action virtually discouraged; greatest dependence placed in charging and use of lance and saber.

(e) *Training:* Excellent; officers and enlisted men in superb physical condition, and highly efficient with their favorite arms; namely, the lance and the saber.

It is important to note that the French, in the training of both men and horses earnestly pursue a fixed, progressive system. The subject of changes in equipment, organization or tactics was never heard discussed. Efficiency in existing or-

*Extracts from notes made by Captain Albert McClure, Eleventh Cavalry.

ganization, and efficiency in the use of the equipments furnished appear to be the motto of the French soldier. Change is looked upon as a step backward. Is there any wonder that a high state of efficiency is obtained? Can a high state of efficiency be obtained by constant changes? Certainly not.

SPORT IN THE ARMY.

HEREWITH is the first number (double number 1 and 2) of a new periodical to be known as "*Sport in the Army*." This is published monthly as a supplement to the "*Militär Wochenblatt*."

The fundamental object is to encourage sport in the Army and particularly to spread in the Army information concerning the Olympic Games to be held in Berlin in 1916. "*Sport in the Army*" is also the official organ of the War Ministry for the circulation of regulations governing military participants in the Games, and will publish from time to time the orders of the War Minister,—all information concerning the prizes offered by the War Ministry, the notices of the Olympic Games Committee, and reports of Officers' Gymnastic and Sport Clubs, reprints from the various sport journals and reviews of sport literature.

The paper costs two Marks per year.

The following is a translation of the table of contents:

	PAGE.
Competitive tests for the Army in Berlin (June 5-8, 1914).....	3
Official information of the Committee for the Military Preparation for the Olympic Games.....	6
List of participants to take part in the 1st, preparatory contest..	8
Notices of the Headquarters and Officers' Sport and Gymnastic Clubs: Berlin, I, X, XIV, XVII, XVIII, XX, A. C. Bavaria.....	9
Prizes for the 10th Berliner Army Pack March.....	20
Officers' Sport Clubs.....	21
The Modern Contest.....	22
The Army and the German Stadion 1913.....	25
Our Navy and Sport.....	26

Attention is invited to the fact that the editors would be pleased if this periodical could be circulated in our Army and would also be glad to publish any announcements concerning the participation of the U. S. Army in the Olympic Games.

This publication is but another instance of the careful, thoughtful and timely attention given by the German War Department in furthering the best interests of the German Army and people.

Regarding this publication the Editor writes:

"In view of the approaching VI Olympic Games to be held in Berlin 1916, the undersigned firm, at the instigation of the Prussian War Office, has decided to publish a periodical in the interests of military sport. The paper is called "*Sport in the Army.*" (Sport in Her.)

"We take pleasure in forwarding a copy of the first number. The editors would be specially pleased if the periodical could be circulated in your army, and the editors would be very pleased to publish any announcements concerning the participation of the United States Army in the Olympic Games.

"As far as possible it is requested that all notices be in either German, French or English."

It is published by the well known firm of W. S. Mittler & Sohn, of Berlin.

AN OFFICER ABROAD.

WARNING TO USERS OF TURPENTINE FOR MEDICINAL OR VETERINARY PURPOSES.

USERS OF THIS SUNSTANCE CAUTIONED TO MAKE
CERTAIN THAT IT IS NOT ADULTERATED.

AS the result of an investigation by the U. S. Department of Agriculture, it has been found that the adulteration of turpentine with mineral oils is so widespread that druggists and manufacturers of pharmaceutical products and grocers' sundries used for medicinal and veterinary purposes should exercise special caution in purchasing turpentine. Those who use

turpentine for this purpose, unless they are careful, run the risk of obtaining an adulterated article and unnecessarily laying themselves open to prosecution under the Food and Drugs Act.

It has been found, moreover, that the turpentine sold to the country store especially, as usually put out by dealers and manufacturers of grocers' sundries, is often short in volume by as much as five or ten per cent. Dealers, therefore, should also protect themselves through guarantee from the wholesaler that the bottle contains the full declared volume.

The Department has found that turpentine may be adulterated in the South where it is made and that the further it gets from the South the more extensively and heavily it is adulterated.

In all cases, druggists, manufacturers and wholesale grocers should satisfy themselves that the turpentine is free from adulteration and is true to marked volume.

BICYCLE TROOPS ATTACHED TO CAVALRY DIVISIONS.

IN accordance with the law of March 31, 1913, reorganizing the French cavalry, all the regiments, seventy-nine in number, serving in France proper, were on October 1st, last organized into ten cavalry divisions, of which eight have three brigades each, and the remaining two (the 4th and 10th), four brigades each. Fifteen of the brigades contain three regiments each, while the other seventeen brigades consist of only two regiments each. In time of war one regiment of cavalry (or in exceptional cases two or three) is to be assigned to each army corps; these regiments will be designated in special orders, but in time of peace will remain attached to the cavalry divisions.

To each such division is assigned a battalion of horse artillery, and a "groupe" of bicycle troops. This "groupe" is formed of a company or a half company of light infantry (Chassuers).

It is divided into three platoons and mounted on portable bicycles. It is intended to accompany and keep up with the cavalry at whatever pace and over no matter how rough ground the latter moves, and is to afford it instant infantry support at any desired moment. The tactical result of this, it is claimed, will be to increase sensibly the offensive value of the cavalry divisions, since without having to sacrifice any of their rapidity of movement, they can count upon the support of the infantry fire of the bicycle troops in any emergency. It is estimated that the bicycle groups can maintain over all sorts of country an average speed of from seven to eight miles an hour for a long period.

I enclose a small book of instructions for the bicycle troops, issued by the Minister of War on Aug. 7, 1913.

I also enclose a descriptive circular of a new portable folding military bicycle which, I am informed, is now being given a trial by the French army. One of the chief claims made for it is that it is lighter than any of the military bicycles now in use, which weigh from thirty to forty-five pounds each, while this weighs only twenty-three pounds complete with brake, mud guard, pumps and other accessories. It is also claimed that it is strongly built, readily repaired, and easily carried on the soldier's back when necessary. Further details can be obtained if desired.

AN OFFICER ABROAD.

GLANDERS VACCINE NOT SATISFACTORY.

*Department of Agriculture Advises Killing of Infected Horses
and Safeguarding the Well Horses from Infection as
the Better Method.*

THAT glanders vaccine is not effective in rendering horses immune from this dangerous disease is the conclusion reached by specialists of the Bureau of Animal Industry, U. S. Department of Agriculture, as a result of extensive experiments with horses and other animals. The experiments show that while

mallein is highly effective as a means to discover the presence of glanders in a horse, neither mallein nor glanders vaccine has shown any positive value in curing animals sick with glanders.

In the experiments seventeen horses were used. These were stabled under such conditions that vaccinated and unvaccinated horses could be brought into contact with a good discharging case of glanders. Mallein and eye test were used carefully to determine the results. The investigators report the following conclusions which appear in a professional paper published by the Department entitled "Immunization Tests with Glanders Vaccine."

The results obtained by these investigations appear to be sufficient to demonstrate the unsatisfactory results of this method of immunization. Of the thirteen immunized animals nine contracted the disease from natural exposure, which is a large proportion when it is considered that all animals were aged and kept most of the time during the exposure out of doors. Of the four remaining immunized horses, one died of impaction after the second vaccination, while the other three animals, were killed August 20, 1913, in order to ascertain by post mortem examination the possibility of glanders existing in these animals which had given positive serum reaction, but which had returned to normal. In artificial infections of the vaccinated animals they showed no resistance whatsoever, as both vaccinated horses promptly developed an acute form of the disease from touching the Schneiderian membrane with a platinum loop which had been touched to a growth of glanders bacilli. For the present, therefore, it seems advisable to abstain from immunizing horses by this method, as a practice of this kind may do more harm than good. Owners having horses which are supposedly immunized would naturally become careless thinking their animals were resistant to the disease, and thus even a better opportunity would be offered for the propagation of the disease than if the horses were not vaccinated. Furthermore, the fact that the blood of vaccinated animals can not be utilized for serum tests for two or three months after the injections is also a great disadvantage in the eradication of the disease.

As a result of this preliminary work it appears that the control and eradication of glanders must still be dependent upon the concentration of our efforts in eliminating infected horses and the adoption of proper precautions against the introduction of infected animals into stables free from the disease. The results achieved in Germany, Austria and Canada by these methods have proved very encouraging, and no doubt if executed in the same spirit in this country a marked reduction in the cases of glanders would result.

MILITARY CRITICS.

Lucius AEmilius Paulus, a Roman Consul, who had been selected to conduct the war with the Macedonians, B. C. 168, went out from the Senate-house into the assembly of the people and addressed them as follows:

“IN every circle, and truly, at every table, there are people who lead armies into Macedonia; who know where the camp ought to be placed; what posts ought to be occupied by troops; when and through what pass Macedonia should be entered; where magazines should be formed; how provisions should be conveyed by land and sea; and when it is proper to engage the enemy, when to lie quiet. And they not only determine what is best to be done, but if anything is done in any other manner than what they have pointed out, they arraign the consul, as if he were on trial. These are great impediments to those who have the management of affairs; for everyone cannot encounter injurious reports with the same constancy and firmness of mind as Fabius did, who chose to let his own authority be diminished through the folly of the people, rather than to mismanage the public business with a high reputation. I am not one of those who think that commanders ought never to receive advice; on the contrary, I deem that man more proud than wise, who did everything of his own single judgment. What then is my opinion? That commanders should be counselled, chiefly, by persons of known talent; by those, especially, who are skilled in the art of war, and who have been taught by experience;

and next, by those who are present at the scene of action, who see the country, who see the enemy; who see the advantages that occasions offer, and who, embarked, as it were, in the same ship, are sharers of the danger. If, therefore, anyone thinks himself qualified to give advice respecting the war which I am to conduct, which may prove advantageous to the public, let him not refuse his assistance to the State, but let him come with me into Macedonia. He will be furnished by me with a ship, a horse, a tent; and even with his traveling charges. But if he thinks this too much trouble and prefers the repose of a city life to the toils of war, let him not, on land assume the office of a pilot. The city, in itself, furnishes abundance of topics for conversation; let it confine its passion for talking to these topics and rest assured, 'hat we shall confine ourselves to our military councils."

Livy, Book XLIV, Chapter 22.



**Military
Hygiene.***

This most excellent work has been completely revised and brought up to date which work should be performed frequently with books relating to a subject that is so steadily advancing, particularly in the application of knowledge gained by experience.

The book is somewhat larger than the first edition the author having added 283 pages. This is not always good policy for it tends to take it out of the class of manuals and make it more of a reference book. It is to be hoped that in future editions the present size of the volume will be retained.

The chapters treating of infectious diseases are very thorough from the standpoint of the sanitarian and the line officer can also read them with great benefit. With probable service in Mexico a general knowledge of these diseases would assist the company officer materially in conserving the health of his command.

*MANUAL OF MILITARY HYGIENE FOR THE MILITARY SERVICE OF THE UNITED STATES. By Colonel Valery Harvard, Medical Corps U. S. Army, Retired, former President of the Army Medical School. Published under the authority and with the approval of the Surgeon General U. S. Army. Second Edition. Thoroughly revised and greatly enlarged. Seven plates and 251 engravings. William Wood & Co., New York. 1914. Price \$5.00, net.

In the chapter on the purification of water the author has brought his material up to date. Among other methods he discusses at length the Darnall apparatus for the chlorination of water supplies.

In the chapter on cooking attention is called to the excellent methods used in foreign armies to provide hot food for the soldier at all times. The general efficiency of our field cooking apparatus is commended but a more thorough investigation of wheeled kitchens is recommended.

The new field equipment of the enlisted man is well described and the text illustrated by numerous cuts showing its proper arrangement.

The author gives full weight to the recent experiments of Hill and others regarding the theory that the bad effects of poor ventilation are not due so much to the presence of poisonous substances in the air as to its lack of movement and high temperature. Unfortunately he does not consider the theory in discussing ventilation methods.

The section devoted to field sanitation is most excellent and practical and would I think be very useful to officers in actual campaign.

Taking the book as a whole it can easily be seen that this edition is well up to date and shows that its revision was not made by printing second edition on the title page.

**Turco-Balkan
Campaign.***

For a military man conversant with the Spanish language, this book gives a clear understanding of the Campaigns of the Allies, as details of tactics, strategy and organization are critically treated.

The first chapter deals, in a general way, with the causes leading up to the declaration of war; the second with a description of the topography of the theater of war.

*SKETCH OF THE TURCO-BALKAN CAMPAIGN. Compiled under the direction of the Chief Military Information Division by the Committee of Observers from the General Staff, attached to the armies. In the original Spanish.

In the third chapter, the general plan of campaign of the Bulgarians and the special plan for the invasion of Thrace; the organization, mobilization and concentration, the preliminary operations and movements of the three corps and of the cavalry division are discussed at length. The capture of Kirk-Kilissee, the battle of Bunar-Hissar, Lula-Bourgas, the attacks on the Tchataldcha lines and the investment and capture of Adrianapolis are covered as well as could be expected in the absence of official reports from the belligerents.

The organizations, plans of campaign, theaters of operations and the operations of the Armies of Servia, Greece and Montenegro are discussed in Chapter IV, V and VI respectively.

As stated in the sketch, it is somewhat premature to formulate definite conclusion regarding the campaign. Since the General Staffs concerned have not yet published their accounts of the war, giving in detail the orders issued, and the manner of execution it is nevertheless of interest to note them.

The following remarks are by the Compilers: "No changes should be made in the existing regulations, as the methods of attack employed by the Allies are not to be considered as types, in view of the fact that they were opposed by a demoralized enemy." In studying the report one is impressed with the truth of that military maxim, "Rapidity is one of the greatest of military virtues."

The book is rendered extremely interesting by numerous photographs taken in the theaters of operation, and by numerous maps; but it is to be regretted that the scale of the latter makes rather tedious the following up of the movements of the different armies.

A. MORENO,
First Lieutenant, Twenty-eighth Infantry.

**American
Policy.***

This book of 184 pages—7½ in. by 5 in.—is by the well known writer on military subjects, Major John Bigelow, U. S. Army, retired. Its purport is best shown by the following extract from the preface:

"The subject of Foreign Policy and World Peace have never been so much in the minds of the people of the United States as at the present day. Pan American Congresses, the Panama Canal, the difference with Japan, the Revolution in Mexico, the question of the Phillippines, Tariff Reduction, The Hague Conferences, the Centennial of Peace with Great Britian, and other incidents direct our thoughts to foreign countries and lead us to reflect on the relations which we hold with them. The purpose of this little work is to minister with fact and reason to such reflection.

"It deals with American policies in their broadest aspects, with political problems of the United States and all America. It seeks to explain the Monroe Doctrine, distinguishing between the extension and the perversion of it; to show its bearing and that of Washington's Farewell Address upon present national affairs; and to expound the theory of Pan Americanism in its true relation to the Monroe Doctrine."

In this book the author deals with the American policies in their broadest aspects—with political problems of the United States and the other American countries. He gives an able and brilliant discussion of the problems of permanent interest and of vital importance to all our people today.

*AMERICAN POLICY. The Western Hemisphere in its Relation to the Eastern. By Major John Bigelow, U. S. Army, Retired. Author of "Mars-la-Tour and Gravelotte;" "The Principles of Strategy;" "Reminiscences of the Santiago Campaign;" "The Campaign of Chancellorsville." Charles Scribner's Sons, New York.



DON'T SHOOT THE EDITOR!

In the old frontier days when dance halls were common in the western garrison towns, a certain proprietor of one of these resorts had the misfortune to loose, in some way, the services of his only musician. A tramp fiddler, hearing of this chance for employment, applied for the position and was hired, although his employer was aware that he was a poor substitute for the place. On the night of his first appearance, the proprietor, knowing full well the proclivities of his patrons, posted the following notice conspicuously about the hall: "Please don't shoot the fiddler, he is doing his best."

Similarly, your Editor is doing his best to keep up the CAVALRY JOURNAL to its former high standard and to bring it out on time but under very adverse circumstances during the last year, or ever since our cavalry has been on the border.

First, to apologize for the late appearance of this number of the JOURNAL, our members and subscribers are informed that this is partly due to the sudden and unexpected closing of the Army Service Schools with which your Editor is officially connected, partly to the fact that, when the time came to send copy to the printer, there was a shortage of available material for publication, and when ready to furnish the copy, the printer was tied up with other work.

Ever since our cavalry has been on the border and have been so strenuously engaged in patrol duty, there has been very little written by those who have been our mainstay in the past and it has been a struggle to obtain suitable original articles for publication. As a fact, the matter on hand for use for each of the

last three numbers of this JOURNAL at the usual time for making up the program for the forthcoming number consisted of a single original article and those the three articles from the pen of Major General Davis, which were on typical cavalry topics and greatly interesting. It is to be regretted that others of our retired cavalry officers who have had long and varied service, do not help us out in this emergency.

There are many of them, to whom appeals have been made, who could, in their leisure moments, furnish original articles based on their experience or study.

Five years ago, at the time the change of the publication of the CAVALRY JOURNAL was made from a quarterly to a bi-monthly, the present President of the Cavalry Association, then in command of the Division of the Philippines, wrote and advised most emphatically against the proposed change. He claimed that, from his former experience as Editor of the CAVALRY JOURNAL, it would be found difficult to keep our Journal up to the proper standard with the comparatively few cavalry officers who were writers and that it would be found necessary to pad with schools essays, reprints, etc. Unfortunately, this protest was received after the change had gone into effect, by a vote of the Executive Council, and since that time it has continued as a bi-monthly. Many times since has your Editor been reminded of this prediction made by General Carter and wished that the JOURNAL was a quarterly instead of a bi-monthly.

Recently, at the last meeting of the Executive Council and just before these officers and all others at the Army Service Schools were ordered to join their respective commands, it was ordered by the Council that, commencing with the July, 1914, number which would be the beginning of a new volume, the CAVALRY JOURNAL should thereafter be published quarterly. Notwithstanding the fact that it may be looked upon as a step backward, your Editor feels that this is the only thing to do, at least in the present emergency and that, even as a quarterly, it will be difficult to keep the JOURNAL going and up to a proper standard without greater help than has been forthcoming during the last few months.

MILITARY HISTORICAL ESSAY.

The American Historical Association has offered a prize of two hundred dollars to be awarded for the best unpublished monograph on military history to be submitted to a Committee selected by the Association before September 1, 1915.

Captain A. L. Conger, U. S. Infantry, Instructor at the Army Service Schools, has been selected as chairman of the "Military History Prize Committee," and he writes regarding this competition as follows:

"This prize represents an attempt by the Historical Association to give a stimulus to the writing of scientific military history and to bring into closer communication the professional military man and the historian. If it is to be successful and to be continued as a feature of the Historical Association's activities, the interest of army officers must of course be aroused and it is to this end that you are asked to assist in bringing this notice to the attention of your subscribers."

The following are the main features of the conditions of award:

"The monograph must be based upon independent and original investigation into some field of the military history of the United States. While the Committee will receive any scholarly work on any American war, it would suggest that in the selection of topics for investigation preference be given to the Civil War. The monograph may deal with a campaign, a battle, a phase or aspect of a campaign or battle, with the fortunes of a corps or division during a battle, or with such subjects as the mobilization or organization of volunteer forces, the material, transportation of food supply of an army, or strategy and military policy.

"The monograph must be a distinct contribution to knowledge.

"The monograph must be based upon exhaustive research; conform to the canons of historical criticism; be presented in scientific form; contain exact references to sources and secondary work; and be accompanied by a full critical bibliography.

"The monograph should not exceed one hundred thousand words in length. The manuscript should be typewritten, and must be neat, correct, and in form ready for the printer. * *

"In making the award the committee will consider not only research, accuracy, and originality, but, also clearness of expression, logical arrangement, and literary form. The prize will not be awarded unless the work submitted shall be of a high degree of excellence."

* * * * *

For further particulars, address Captain A. L. Conger, now at Texas City, Texas.



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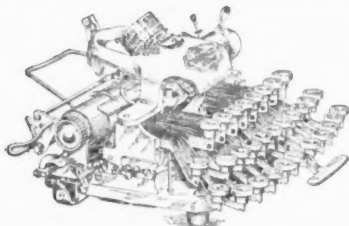
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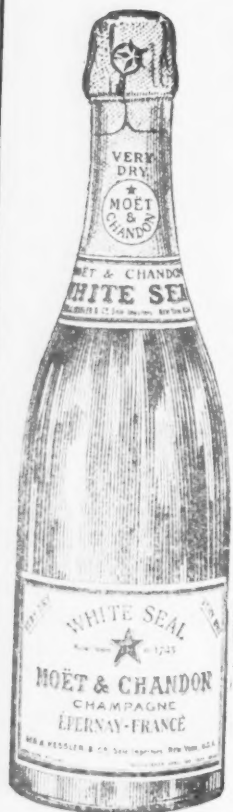
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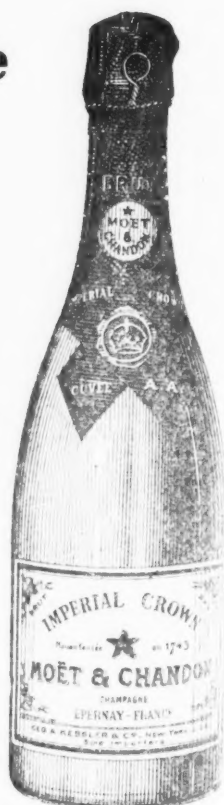
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